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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

1971 ANNUAL REPORT
OF

PLANT MATERIALS CENTER

COFFEEVILLE, MISSISSIPPI

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Organization of the
Soil Conservation Service
Plant Materials Center
Coffeeville, Mississippi

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COFFEEVILLE PLANT MATERIALS CENTER

ANNUAL TECHNICAL REPORT

1971

PART II

This is a report of the technical activities of the Coffeeville Plant Materials Center for the calendar year 1971.

The Coffeeville Plant Materials Center is approximately seven miles west of Coffeeville, Mississippi on Tillatoba Road. It is in a loessial soil resource area and comprises about 195 acres of land leased from the U. S. Forest Service. A portion of the land under lease can not be effectively utilized because of the terrain. Principal soils are:

Waverly - Poorly drained acid bottom land, with 0-2 percent slope.

Grenada silt loam - Moderately well drained upland soil with gentle-to-steep slope. Erosion is moderate to severe.

Calloway silt loam - Somewhat poorly drained upland soil, mostly on a gentle slope. Erosion is moderate to severe.

Other soil types occur on the Center but in lesser amounts. The variation in terrain and soil types makes it possible to test plants under several conditions.

Weather Summary

Winter temperatures during 1970 and 1971 were near normal for the location. No severe or prolonged cold periods occurred. Likewise, summer temperatures were about normal during 1971. November and December 1971 were considerably warmer than usual.

A monthly rainfall chart is shown below:

January	5.08 inches	May	3.83 inches	September	1.42 inches
February	7.12 "	June	3.87 "	October	.70 "
March	9.38 "	July	5.76 "	November	1.35 "
April	4.95 "	August	3.33 "	December	5.87

Total rainfall for the year, 52.66 inches

Droughty conditions occurred during most of July, followed by above normal rainfall in late July and August. Fall conditions were dryer than normal.

I. Assembly of Plant Materials

A total of 283 accessions of plants was received by the by the Center in 1971. These plants have been, or will be, established in the initial observational nurseries. They will be observed for potential to solve conservation problems as listed below:

A. Streambank and/or reservoir levee erosion control.

Seventy-one accessions were received, including plants in the following genera: Arundinaria, Amorpha, Alnus, Salix, Panicum, Phragmites, Paspalum.

B. Erosion control on roadbanks and similar sites.

Forty-six accessions were received. Genera represented includes Panicum, Lolium, Themeda, Lespedeza, Arundinella, Polypogon.

C. Warm season forage production and/or erosion control.

Seventy-three accessions were received. These plants have potential for forage production and erosion control. Most of these plants are either Panicum or Hemarthria.

D. Cool season forage production and/or erosion control.

A total of 35 accessions was received, most of which were either Festuca or Bromus. These plants are being observed for potential to solve either or both of these conservation problems.

E. Wildlife food plants.

Twenty-four accessions of plants, which are believed to have merit as wildlife food plants, were received. This group includes plants in the following genera: Echinochloa, Eleusine, Castanea, Callicarpa, Crataegus and Vicia.

F. Miscellaneous

In addition to the plants previously mentioned, 34 accessions of plants, not fitting any of these categories, were received. Only a few of these accessions likely have merit for solving any common problem. For this reason, they will be held and be observed after a larger group has been assembled.

II. SUPPLEMENTAL EVALUATION

Those plants which have shown particular merit in the Initial Observational phase of testing are carried into Supplemental Observation. Here they are further tested to gain more specific information about their characteristics. The following are Supplemental Observation trials carried out at the Center in 1971.

A. Paspalum vaginatum and P. distichum.

Both of these species have shown promise as streambank and reservoir levee erosion control plants. If these plants are to be useful, however, a method for (a) producing and (b) harvesting reasonable quantities of seed is very desirable.

Purpose of test: To produce sufficient quantities of seed on selected Paspalum vaginatum and P. distichum to warrant harvest.

Method and Materials: The following ten accessions were established in 5' x 20' plots on May 20, 1970:

Paspalum distichum: MS 3152, 3153, 3154, 3155, 3175, 3178 and 3182.

Paspalum vaginatum: MS 3247, 3248 and 3249.

In order to insure establishment in 1970, a moderate amount of 13-13-13 was applied. A low dike was built around the plots and water applied to maintain a wet soil condition.

The following testing procedure was to have been in 1971; however, competition from unwanted grasses made it impractical to follow this procedure:

The plot for each accession was to have been divided into two sub-plots. One sub-plot of each accession was to be fertilized at the rate of 200 pounds of Ammonium nitrate per acre. The other was to receive no fertilizer.

All sub-plots were to be clipped at three week intervals. Soil was kept at a near saturated condition except at times of clipping when it was allowed to become dryer. Whenever good quantities of seedheads were set, clipping was discontinued and the seed allowed to mature. Each sub-plot was then clipped, the clippings retained and threshed, and the seed quantity and quality determined.

Results and Discussion.

As was previously mentioned, all plots became severely infested with Paspalum boscianum, Panicum dichotomiflorum, and other grasses. Making accurate determinations of seed quantity and quality being produced was impossible.

This test will be continued in 1972, with care being taken to eliminate competition.

B. Panicum hemitomon, Maidencane

Maidencane is a perennial, strongly rhizomatous grass adapted to wet soil situations in the southeastern United States. It forms dense stands and has proven to be a good streamchannel erosion control plant in some channels. No viable seed have been produced at the Coffeeville Plant Materials Center.

A lack of seed production restricts movement into areas where the plants are unwanted. It also makes vegetative propagation necessary and this is more costly and time consuming than propagation by seed. For this reason, a test was conducted to determine the optimum time for planting rhizomes.

Purpose of Test: To determine (1) the best month(s) for planting maidencane rhizomes and (2) whether the rhizomes are injured by normal shipment.

Methods and Procedures: Plantings of maidencane, Panicum hemitomon, MS 2138, were to be made once each month for 24 consecutive months. Plantings were made as follows: Enough rhizomes were dug each month to plant six rows each five feet long, with live material. Rhizomes were planted about 1½" deep, as 4" - 6" pieces end-to-end in the rows. These rows were planted immediately after the rhizomes were dug. The remaining rhizomes were packaged, as for shipment, and stored in the warehouse. One row was planted from this stored material after 24 hours, and two more were planted after 48 hours of storage.

Plantings were checked as soon as appropriate to determine initial survival. Approximately one year later, the percentage of ground cover and width of spread were determined. These determinations were made by visual observation, except that width of spread was measured.

Results and Discussion: The following table shows the results of the test. (See following page):

RESULTS OF TEST: PANICUM HEMITOMON, MS-2138

PLANTING : : PLANTING : : CHECKED : : BEGAN : : CHECKED : :	: : : :	: : : :	: : : :	: : : :	% COVER 1 YEAR AFTER PLANTING		SPREAD 1 YEAR AFTER PLANTING	
					: : : :	: : : :	: : : :	: : : :
6-4-68	6-24-68	100	95	100	100	100	30"	28"
7-1-68	7-15-68	100	100	100	100	100	24"	24"
8-1-68	8-20-68	100	100	100	100	100	28"	28"
9-3-68	9-17-68	95	90	95	100	95	24"	24"
10-1-68	10-15-68	95	95	95	100	100	28"	28"
11-3-68	4-22-69	100	95	95	100	100	24"	24"
12-10-68	4-22-69	100	95	100	100	100	28"	28"
1-13-69	4-22-69	95	100	100	100	100	30"	30"
2-10-69	4-22-69	95	95	95	100	100	30"	30"
3-5-69	4-22-69	100	95	90	100	100	32"	30"
4-9-69	4-22-69	90	95	50	100	100	30"	30"
5-12-69	5-21-69	100	100	100	100	100	30"	30"
6-4-69	6-20-69	95	95	75	100	100	30"	30"
7-8-69	8-15-69	100	100	100	100	100	30"	30"
8-6-69	9-9-69	95	80	15	100	100	30"	--
9-8-69	9-22-69	40	60	60	95	95	30"	30"
10-8-69	10-22-72	0	0	5	0	0	--	18"
11-5-69	4-15-70	0	5	5	0	20	--	30"
12-3-69	4-15-70	0	5	0	0	20	--	--
**								
4-15-70	5-13-70	60	85	90	90	95	24"	24"
5-6-70	5-20-70	70	60	60	90	95	28"	28"

**Bad weather conditions in January, February and March, 1970 prevented plantings being made.

The cause of the poor survival of all plantings made in October 1969 is unknown. These rhizomes should have begun regrowth before frost but very few did. The November and December, 1969 plantings were made after frost and would not have begun regrowth until April, 1970. Both of these plantings may have been injured by an extremely cold period in January, 1970. All plantings, other than the three above, had little difference in initial survival, cover after one year's growth, and width of spread. Apparently plantings could be successfully made during most months, excluding autumn. Storage for 48 hours did not harm the rhizomes.

C. Removal of Plants for Which Evaluation Has Been Completed:

Numerous plants which had shown no particular merit were removed from various observational areas in 1971. This was done to provide more space and to cut down on operating costs. Some plants which were removed include a good number of accessions in the initial observational area.

Various plants in the woody plant observational area were removed, or selectively reduced in number:

Elaeagnus umbellata

Castanea molissima

Malus spectabilis

Malus sp.,

D. Treatment Tests to Induce Germination in Eastern Redcedar Seed

The Eastern Redcedar, Juniperus virginiana, is commercially marketed as either sawlogs or fence posts in some areas served by this Center. Certain sites within this area are believed to be better suited for growing Eastern Redcedar than other timber species. These sites are usually not well suited for transplanting seedlings; so, a direct seeding method is needed.

It would be advantageous to be able to harvest seed in the fall, clean, dry, store, and get good germination from these seed sown the following spring. Unfortunately, Eastern Redcedar seed must be harvested rather early after maturity; cleaned, and properly stratified. Even then, they will not germinate the following spring unless planted early enough for germination to occur within a rather cool temperature range. In an attempt to overcome this dormancy problem, this Center ran the following test.

Purpose: To determine whether certain seed treatments will break dormancy and increase germination of seed of Eastern Redcedar, Juniperus virginiana.

Materials:

1. Cleaned, dry seed of Eastern Redcedar which had been harvested in the fall of 1969

2. Concentrated sulfuric acid
3. Gibberellic acid (as 0.857% Potassium gibberellate)
4. Three percent hydrogen peroxide solution

Methods:

The seed treatments were made in the following order where more than one treatment was involved.

1. Sulfuric acid- Seed were soaked in the acid until a good part of the seedcoat was removed, washed with cold water, and allowed to dry.
2. Hydrogen peroxide - Seed were soaked in 3% Hydrogen peroxide 2 hours, removed, and allowed to dry.
3. Gibberellic acid - Seeds were dampened in the solution and allowed to dry.

One hundred seeds were subjected to each of the following:

Treatment No. 1: Sulfuric acid plus hydrogen peroxide plus gibberellic acid.

2: Sulfuric acid plus hydrogen peroxide

3: Sulfuric acid plus gibberellic acid

4: Hydrogen peroxide plus gibberellic acid

5: Gibberellic acid only

6: Hydrogen peroxide only

7: Sulfuric acid only

8: Control seed - No treatment

Seeds were treated as above and planted in flats in early April, 1970. All flats were placed outside in the shade of trees.

Results and Discussion:

No germination occurred in any of the eight treatments in 1970.
In April 1971 the following germination percentages were noted:

<u>Treatment No.</u>	<u>Percent Germination</u>
1	0
2	9
3	4
4	0
5	20
6	13
7	0
8	28

None of these treatments induced germination the first spring the seeds were planted. From this very limited test, it would seem that the seed were harmed by most treatments.

E. Requirements for Germination and Establishment of Five Species of Plants

Seeds often require conditions for germination and establishment which are unknown. This is true of many materials received by Plant Materials Centers since many of the plants they receive are not the customary agronomic plants.

In order to effectively utilize a plant, something must be known about germination and establishment requirements. Five species of plants showing conservation value were selected for testing at the Coffeerville Plant Materials Center.

Methods and Procedures: The following five (5) accessions were to be planted monthly for 36 consecutive months:

Echinochloa holubii, MS 924, Limpopograss
Lespedeza virgata, MS 126, Spreading lespedeza
Panicum virgatum, MS 155, Pangburn switchgrass
Paspalum nicorae, MS 906, Amcorae brunswickgrass
Paspalum notatum, MS 131, Wilmington bahiagrass

Five hundred seed of each accession were used monthly; 100 being planted at each of the following five (5) depths: 0", 1/4", 1/2", 1" and 1 1/2". The planting area was treated with methyl bromide to kill weed seeds. Rows were made and allowed to settle prior to planting.

The percentage of germination was determined as soon after planting as possible. The stand was rated for percentage ground cover (visual observation) one year after emergence.

Results and Discussion: The following table shows the planting results for all plantings completed. Further testing is necessary.

b. Echinochloa holubii, MS 924 - Results of Test -

		% GERMINATION					% COVERAGE 1 YR. AFTER GERMINATION				
Depth Planted		: 0" :	$\frac{1}{4}$ " :	$\frac{1}{2}$ " :	1" :	$1\frac{1}{2}$ " :	0% :	$\frac{1}{4}$ " :	$\frac{1}{2}$ " :	1" :	$1\frac{1}{2}$ " :
Date	Date										
Planted:Checked											
5-2-68	5-21-68	13	15	18	25	26	::	50	100	100	100
6-4-68	7-1-68	2	4	3	5	6	::	85	85	90	75
7-1-68	7-23-68	6	21	12	11	10	::	40	100	90	100
8-1-68	8-19-68	19	23	16	8	7	::	50	90	40	90
9-3-68	9-24-68	38	17	21	25	16	::	50	0	50	30
10-1-68	11-1-68	27	22	28	23	11	::	0	15	0	25
11-4-68	4-21-69	0	0	1	0	0	:::	0	0	0	0
12-10-68	4-21-69	1	2	9	5	3	::	0	25	20	0
1-13-69	4-21-69	0	2	0	3	1	::	0	10	0	10
2-10-69	4-21-69	1	4	0	3	4	::	0	0	0	0
3-5-69	4-21-69	0	0	0	1	3	::	0	0	0	0
4-9-69	5-13-69	4	13	2	10	8	::	10	0	0	0
5-12-69	5-28-69	1	7	6	5	0	::	0	0	0	0
6-4-69	7-1-69	8	13	8	2	2	::	0	10	10	10
7-9-69	8-11-69	6	7	5	4	0	:::	0	10	15	10
8-7-69	9-9-69	7	13	14	9	6	::	10	0	10	0
9-8-69	10-10-69	0	0	11	10	3	::	0	0	0	0
10-8-69	5-13-70	0	1	0	6	4	::	0	0	0	30
11-5-69	5-13-70	0	0	0	0	3	::	0	0	0	0
12-4-69	5-13-70	0	0	0	0	1	::	0	0	0	0
N											
Q											
P											
l											
i a											
n n											
g t											
s-											
4-15-70	5-13-70	16	10	21	21	15	::	60	60	80	90
5-12-70	6-22-70	18	15	9	6	2	::	100	100	70	60
6-8-70	7-3-70	4	9	5	5	0	::	40	70	60	60
6-29-70	7-29-70	18	31	18	2	1	::	100	100	100	30
8-3-70	8-27-70	19	9	6	2	6	::	80	50	40	0
9-1-70	10-23-70	4	1	2	3	1	::	0	0	0	0

c. Lespedeza virgata, MS 126 - Results of Test

		% GERMINATION					% COVERAGE 1 YR. AFTER GERMINATION				
Depth Planted		: 0"	: $\frac{1}{4}$ "	: $\frac{1}{2}$ "	: 1"	: $1\frac{1}{2}$ "	: 0	: $\frac{1}{4}$ "	: $\frac{1}{2}$ "	: 1"	: $1\frac{1}{2}$ "
Date	Date	(Visual Estimation)									
Planted:	Checked										
5-2-68	5-21-68	30	42	33	39	21	100	100	80	100	85
6-4-68	7-1-68	12	17	8	0	0	60	75	75	0	0
7-1-68	7-23-68	33	11	2	1	0	100	100	90	10	0
8-1-68	8-19-68	36	40	34	4	0	90	85	100	0	0
9-3-68	9-24-68	28	26	14	20	3	0	0	0	0	0
10-1-68	11-1-68	15	24	0	0	0	0	0	0	0	0
11-4-68	4-21-69	0	0	0	2	0	0	0	0	0	0
12-10-68	4-21-69	0	0	1	0	0	0	0	0	0	0
1-13-69	4-21-69	0	0	0	0	0	0	0	0	0	0
2-10-69	4-21-69	0	0	1	0	0	0	0	0	0	0
3-5-69	4-21-69	1	1	2	0	0	0	0	20	0	0
4-9-69	5-13-69	0	1	0	1	0	0	0	0	0	0
5-12-69	5-28-69	62	44	28	36	2	100	100	100	100	30
6-4-69	6-20-69	45	17	5	3	1	90	30	0	50	0
7-9-69	8-11-69	4	1	4	0	0	0	0	50	0	0
8-7-69	9-9-69	0	0	0	0	0	0	0	0	0	0
9-8-69	10-10-69	8	2	2	0	0	0	0	0	0	0
10-8-69	5-13-70	0	0	0	1	2	0	0	0	0	0
11-5-69	5-13-70	0	0	0	0	0	0	0	0	0	0
12-4-69	5-13-70	0	0	0	0	0	0	0	0	0	0
No											
P											
1											
a											
i n											
n t-											
g											
s											
4-15-70	5-13-70	4	6	6	7	5	20	20	50	50	50
5-12-70	6-22-70	11	14	12	4	0	90	100	100	70	0
6-8-70	7-3-70	4	13	2	0	0	40	90	20	0	0
6-29-70	7-29-70	1	4	3	0	2	10	40	30	0	30
8-3-70	8-27-70	3	16	10	0	0	30	80	70	0	0
9-1-70	10-23-70	13	8	1	0	0	60	50	0	0	0

d. Panicum virgatum, MS 155 - Results of Test

		% GERMINATION					% COVERAGE 1 YR. AFTER GERMIN.				
Depth Planted		: 0"	: $\frac{1}{4}$ "	: $\frac{1}{2}$ "	: 1"	: $1\frac{1}{2}$ "	: 0"	: $\frac{1}{4}$ "	: $\frac{1}{2}$ "	: 1"	: $1\frac{1}{2}$ "
Date	Date	(Visual Estimation)									
Planted : Checked :											
5-2-68	6-13-68	11	28	22	20	8	80	100	90	100	100
6-4-68	7-1-68	6	11	7	2	0	35	80	20	25	0
7-1-68	7-23-68	12	10	27	11	2	0	25	30	60	0
8-1-68	8-19-68	8	18	6	13	9	45	5	15	60	0
9-3-68	9-24-68	14	24	22	14	11	0	0	0	0	0
10-1-68	11-1-68	26	28	12	21	8	0	0	40	30	90
11-4-68	4-21-69	1	0	2	10	2	20	0	20	80	60
12-10-68	4-21-69	2	21	18	27	39	40	75	0	60	100
1-13-69	4-21-69	0	7	2	14	17	0	40	30	50	90
2-10-69	4-21-69	5	15	15	14	15	40	80	50	50	75
3-5-69	4-21-69	12	15	4	24	19	40	60	75	70	90
4-9-69	5-23-69	2	5	12	5	4	20	60	80	60	60
5-12-69	6-4-69	4	11	2	1	1	50	50	0	0	0
6-4-69	7-1-69	2	5	1	0	0	40	60	0	0	0
7-9-69	8-11-69	4	12	6	1	0	50	90	70	40	0
8-7-69	9-9-69	13	22	13	20	16	0	0	0	0	0
9-8-69	10-10-69	3	11	12	12	3	0	0	0	0	0
10-8-69	5-13-70	0	0	0	0	0	0	0	0	0	0
11-5-69	5-13-70	0	0	0	1	0	0	0	0	0	0
12-4-69	5-13-70	0	0	0	0	0	0	0	0	0	0
No											
p											
l											
a											
i n											
n t-											
g											
s-----											
4-15-70	5-13-70	19	16	41	27	27	80	80	100	100	90
5-12-70	6-22-70	12	9	11	8	1	100	100	90	90	30
6-8-70	7-3-70	8	15	1	0	1	90	100	20	0	20
6-29-70	7-29-70	9	3	4	3	0	90	20	20	20	0
8-3-70	8-27-70	8	14	11	11	5	30	40	40	20	0
9-1-70	10-23-70	2	18	14	5	5	0	50	0	0	0

a. Paspalum nicorae - MS 906 - Results of Test -

		% GERMINATION					% COVERAGE 1 YR. AFTER GERM.				
Depth Planted		0"	$\frac{1}{4}$ "	$\frac{1}{2}$ "	1"	$1\frac{1}{2}$ "	0"	$\frac{1}{4}$ "	$\frac{1}{2}$ "	1"	$1\frac{1}{2}$ "
Date Planted	Date Checked										
5-2-68	5-21-68	15	29	28	14	4	90	100	100	100	100
6-4-68	7-1-68	0	0	0	1	2	0	0	0	20	50
7-1-68	7-23-68	4	2	2	7	4	0	5	50	75	45
8-1-68	8-19-68	2	2	10	8	6	0	0	80	70	10
9-3-68	9-24-68	9	8	8	5	7	0	0	0	50	60
10-1-68	11-1-68	23	16	23	7	11	0	0	0	0	0
11-4-68	4-21-69	0	0	22	25	26	0	0	0	0	0
12-10-68	4-21-69	0	0	0	4	3	0	0	0	0	0
1-13-69	4-21-69	15	9	4	8	8	0	0	0	0	0
2-10-69	4-21-69	12	6	13	12	19	0	0	0	0	0
3-5-69	4-21-69	7	4	16	19	1	0	0	0	0	0
4-9-69	5-13-69	0	5	7	18	5	0	0	0	0	0
5-12-69	5-28-69	2	22	9	5	0	0	0	0	0	0
6-4-69	7-1-69	1	5	9	2	4	0	0	0	0	0
7-9-69	8-11-69	4	9	16	0	0	0	0	10	0	10
(in middles)											
8-7-69	9-9-69	32	38	32	18	0	0	0	0	0	0
9-8-69	10-10-69	22	17	17	8	7	0	0	0	0	0
10-69	5-13-70	0	0	0	0	0	0	0	0	0	0
11-5-69	5-13-70	0	0	0	0	0	0	0	0	0	0
12-4-69	5-13-70	0	0	0	0	0	0	0	0	0	0
No Plantings											
4-15-70	5-13-70	15	28	8	22	18					
5-12-70	6-22-70	27	14	11	6	20	80	80	80	50	70
6-1-70	7-3-70	21	8	3	1	0	80	60	20	10	0
6-29-70	7-29-70	23	41	19	6	1	90	90	70	50	0
8-3-70	8-27-70	28	18	4	5	13	80	60	20	20	50
9-1-70	10-23-70	29	32	16	3	0	50	70	50	0	0

e. Paspalum notatum, MS 131 - Results of Test

Depth Planted		% GERMINATION					% COVERAGE 1 YR AFTER GERMIN.				
		: 0"	: $\frac{1}{4}$ "	: $\frac{1}{2}$ "	: 1"	: $1\frac{1}{2}$ "	: 0"	: $\frac{1}{4}$ "	: $\frac{1}{2}$ "	: 1"	: $1\frac{1}{2}$ "
Date Planted	Date Checked										
5-2-68	6-13-68	16	12	5	8	11	100	100	90	100	90
6-4-68	7-1-68	0	2	1	9	4	0	25	25	90	85
7-1-68	7-23-68	21	13	30	11	4	80	100	100	85	90
8-1-68	8-19-68	19	6	8	19	19	10	60	30	80	100
9-3-68	9-24-68	19	6	39	7	18	0	0	10	15	10
10-1-68	11-1-68	5	15	16	4	0	0	0	0	70	100
11-4-68	5-13-69	0	0	1	0	1	0	0	0	0	50
12-10-68	5-13-69	0	0	0	0	7	0	0	0	0	60
1-13-69	5-13-69	0	0	3	17	5	0	0	10	100	90
2-10-69	5-13-69	0	2	4	10	3	0	60	80	100	90
3-5-69	5-13-69	0	5	4	15	8	0	90	90	100	100
4-9-69	5-23-69	1	4	28	28	29	0	80	100	100	100
5-12-69	6-4-69	8	46	9	15	3	100	100	100	100	100
6-4-69	7-1-69	14	7	7	5	3	90	100	100	100	90
7-9-69	8-11-69	20	11	27	23	22	0	0	0	0	0
8-7-69	9-9-69	28	38	36	49	13	0	0	0	0	0
9-8-69	10-10-69	11	38	34	33	22	0	0	0	0	0
10-8-69	5-13-70	0	0	0	0	0	0	0	0	0	0
11-5-69	5-13-70	0	0	0	0	0	0	0	0	0	0
12-4-69	5-13-70	0	0	0	0	0	0	0	0	0	0
No											
P											
1											
i a											
n n											
g t											
s -											
4-15-70	5-13-70	19	21	27	15	18	100	100	100	100	100
5-12-70	6-22-70	8	8	24	10	4	100	80	100	100	60
6-8-70	7-3-70	1	6	7	1	3	40	80	80	30	60
6-29-70	7-29-70	10	8	2	0	3	40	30	0	0	30
8-3-70	8-27-70	19	70	70	57	30	50	100	100	100	80
9-1-70	10-23-70	7	5	10	11	4	0	0	10	20	0

Weather conditions made it impossible to plant the seed in January, February, and March 1969. Grass seed washed into the area and made it impossible to accurately determine germination of the October, November and December 1969 plantings.

Monthly germination results vary considerably from species to species, planting depth also influences results. The best month(s) for germination is difficult to determine; but, April through July plantings generally become established better.

III. Initial Increase of Selected Plant Materials.

These accessions which have shown particular merit in initial observation and supplemental observation are placed in Initial Increase. This is done to produce more seed or planting stock for further testing and to make field increase plantings. The following Initial Increase plantings were made in 1971:

Andropogon scoparius, Little bluestem, MS Nos. 332, 333, 748, and 1772. These four accessions all have somewhat similar characteristics of growth, maturity date, etc. Seed from all four was mixed and planted together, since a mixture of the four was believed to be superior to any one accession alone.

Germination was poor and crabgrass competition eliminated those plants which emerged. This planting will be made again at a future date.

Robinia fertilis, bristly locust, MS 2488. This plant was received originally as Robinia hispida but is believed to be to be R. fertilis because it produces a reasonable quantity of seed. Bristly locust produces root suckers readily and forms thickets. It is capable of growing on acid sites and is reported to be a good mine spoil cover plant.

A small plot was established vegetatively in 1971 at the Center.

Amorpha fruticosa, Indigobush, MS 3334, is a perennial, deciduous leguminous shrub. It grows in rather wet areas, and has value as a wildlife food plant, ornamental and shoreline erosion control plant. The plant is easily propagated from seed and good quantities of seed are produced.

A small increase area was established in 1971.

Plant and Seed Increases

Species	MS : No.:	PI or Other No.:	Amount Planted Seed(lbs):	Plants(ea):	Area in Production:	Amount Harvested Seed(lbs):	Plants(ea):	Purpose of * Increase
<u>Alnus glutinosa</u> European black alder	2583		100		120' row	0		A.1
<u>Alnus rugosa</u> Hazel alder	3449		100		120' row	0		A.1
<u>Ampelopsis brevipen- dunculata</u> , Amur amp.	2665		2,000		600' r.	2,000		A.1
<u>Andropogon scoparius</u> Little bluestem, 333,748,1772	332, All			Center Use	Est. 1/10 ac.	0		E.4
<u>Arachis monticola</u> Reseeding peanut	528	263393		200#	1/4 Ac.	125#		E.6, C.4
<u>Callicarpa americana</u> American beautyberry	3298		500		50' r.	0		C.3
<u>Castanea alnifolia</u> Trailing chinquapin	4		800		190' r.	500		C.6
<u>Castanea dentata</u> American chestnut	3306		5		5' r.	2		C.6
<u>Castanea dentata</u> American chestnut	3321		10		8' r.	0		C.6
<u>Castanea mollissima</u> Chinese chestnut	Several		5,000		600' r.	800		C.6

Plant and Seed Increases

Species	MS No.	PI or :Other No.:	Amount Planned :Seed(lbs.):Plants(ea.):Production	Area in :Seed(lbs):Plants(ea): Increase	Purpose of
<u>Castanea ozarkensis</u> Ozark chinkapin	3161		10	7' r.	0 C.6
<u>Castanea ozarkensis</u> Ozark chinkapin	3370		30	30' r.	0 C.6
<u>Cornus florida</u> Flowering dogwood	3476		1,300	600' r.	280 B.5, C.3
<u>Crataegus sanguinea</u> Redhaw hawthorn	3372		1,000	300' r.	0 B. 5, C.7
<u>Crataegus sp.</u> Hawthorn	2671		6,000	600' r.	0 B.5, C.7
<u>Cynodon dactylon</u> Tifdwarf bermudagrass			300 sq.yds	5,000 sq.ft.	20 sq.yds B.3
<u>Cynodon dactylon</u> Tufcote bermudagrass		BN 4198	300 "	5,000 "	159 " B.3
<u>Echinochloa frumentacea</u> Chiwapa millet	181	BN 8963	800#	1 acre	2,550# C.2
<u>Echinochloa holubii</u> Limpopograss	924			1.5 ac	0 B.3, B.8
<u>Elaeagnus umbellata</u> Autumn olive	429		600	150' r.	0 C.1, C.7
<u>Elaeagnus umbellata</u> Autumn olive	430		600	600' r.	10 C.1, C.7

Plant and Seed Increases

Species	MS No.	PI or No.	Amount Planned Seed(lbs.):Plants(ea.):Plants(ea.): Increase	Area in Production:Seed(lbs):Plants(ea):	Amount Harvested	Purpose of Increase
<u>Elaeagnus umbellata</u> <u>Autumnolive</u>	432	BN 12090	2,500	900' r.	14	C.1, C.7
<u>Eragrostis curvula</u> <u>Weeping lovegrass</u>	FP		1,000	15 ac.	520#	A.1, A.4
<u>Eragrostis robusta</u> <u>Big lovegrass</u>	394		50	1 ac	2#	E.2
<u>Eucnymus americana</u> <u>Strawberry bush</u>	3368		10	2' r.	0	C.3
<u>Eucnymus americana</u> <u>Strawberry bush</u>	3299		50	19' r.	0	C.3
<u>Eucnymus bungeanus</u> <u>Winterberry euonymus</u>	2945		1,000	200' r.	0	C.1, C.7
<u>Festuca arundinacea</u> <u>KY 31 Fescue</u>	1601		10,000	50 ac.	8,200#	C.4, C.7
<u>Festuca arundinacea</u> <u>Artrens fescue</u>	539		150#	3/4 ac.	50#	E.1
<u>Glycine ussuriensis</u> <u>Wild reseeding soybean</u>	128		300#	3 ac.	3,800#	C.1, C.3, C.4
<u>Hemerocallis sp.</u> <u>Tawny daylily</u>	2165		8,000	1/4 ac.	9,062	B.5
<u>Ilex vomitoria</u> <u>Youpon holly</u>	2946		50	50' r.	0	C.3, B.5

Plant and Seed Increases

Species	MS No.	PI or :Other No.:	Amount Planned Seed(lbs):Plants(ea):	Area in Production:Seed(lbs):Plants(ea):	Amount Harvested Seed(lbs):Plants(ea):	Purpose of Increase
<u>Lespedeza cuneata</u> <u>F. P. Sericea</u>	2146		7,000	75 ac.	11,600	A.4, E.7
<u>Lespedeza virgata</u> <u>Spreading lespedeza</u>	126		400	2 ac.	470	A.4
<u>Lonicera maackii</u> <u>Amur honeysuckle</u>	2161		3,000	600' r.	11	C.7
<u>Malus hupehensis</u> <u>Maidencane</u>	150		4,700	900' r.	920	B.5, C.7
<u>Panicum virgatum</u> <u>Switchgrass</u>	17		All- PMC	100' r.	0	E.4
<u>Panicum virgatum</u> <u>Switchgrass</u>	18		" "	3 ac.	0	E.4
<u>Panicum virgatum</u> <u>Pangburn switchgrass</u>	155		300#	3 ac.	0	E.4
<u>Paspalum notatum</u> <u>Wilmington bahiagrass</u>	131		2,000	30 ac.	825	E.7, A.4
<u>Phyllostachys bissetii</u> <u>Bissett's bamboo</u>	499		Per Request	300' r.	860 rh.	B.2, A.3

Plants and Seed Increases

Species	MS No.	PI or : Other No.	Amount Planned		Area in Production	Amount Harvested	Purpose of Plants(ea): Increase
			Per	Request			
<u>Phyllostachys meyeri</u> Meyers' bamboo	498		Per	Request	300' r.	800 rh.	B.2, A.3
<u>Phyllostachys sp.</u> Hardy bamboo	500		Per	Request	300' r	0	B.2, A.3
<u>Pistacia chinensis</u> Chinese pistache	2182			2,700	600' r.	58	C.6, C.7, B.5
<u>Prunus caroliniana</u> Laurel cherry	3186			100	35' r.	0	B.5
<u>Pyrus calleryana</u> Callery pear	3477			30	5' r.	6	B.5
<u>Pyrus sp.</u> Pear	3281			10	5' r.	5	B.5
<u>Quercus acutissima</u> Sawtooth oak	3			1600	315' r.	1,530	C.3, C.5
<u>Quercus myrsinaefolia</u> Chinese evergreen oak	6			100	66' r.	0	B.5
<u>Quercus myrsinaefolia</u> Chinese evergreen oak	3204			25	18' r.	0	B.5
<u>Rhamnus caroliniana</u> Carolina buckthorn	3369			400	300' r	0	B.5

Plant and Seed Increases						*
Species	MS	PI or No. :Other No.	Amount Planned Seed(lbs):Plants(ea):Production:Seed(lbs):Plants(ea):Increase	Area in	Amount Harvested	Purpose of
<u>Salix glaucophylloides</u>	881		500	300' r.	0	A.1
<u>Blueleaf willow</u>						
<u>Trifolium nigrescens</u>	FP		1,000#	10 ac.	360#	E.1, E.6
<u>Ball clover</u>						
<u>Trifolium vesiculosum</u>						
<u>Meechee arrowleaf clover</u>			1,200#	9 ac.	1,700#	E.1, E.6

*Listing of Problems begin on following page.

PROBLEMS requiring new plants are many and diverse. They are grouped in five categories, with problems in category A being given the highest priority and those in category E the lowest. Within each category the problems are arranged in order of importance; number one being the most important and the last problem the least important.

A. Problems Related to Sediment Producing Areas:

1. Controlling streambank erosion with vegetation.
2. Stabilizing gully erosion with vegetation.
3. Stabilizing sheet eroding sites with vegetation.
4. Controlling erosion on road embankments and cut banks with vegetation.
5. Vegetating mine spoil dumps.
6. Stabilizing water disposal areas with vegetation.
7. Controlling erosion on filled areas with vegetation.

B. Problems Related to Recreation and Improvement of the Environment:

1. Assemble information on the culture and management of plants needed for recreation and beautification purposes.
2. Screen plant materials to block unsightly scenes from public view.
3. Ground cover plants in areas with heavy traffic.
4. Erosion controlling plants that will withstand heavy foot traffic in shaded areas are needed for parks, playgrounds and other recreational areas.
5. Ground cover plants to control erosion and improve the appearance of the area.

6. Assemble information about plants that are adapted to sites that have been contaminated with industrial wastes.
7. Winter annual grass other than ryegrass for recreational areas with heavy foot traffic.

C. Problems Related to Wildlife Habitat Improvement:

1. Quail Food and Cover. New Plants are needed to provide cover and food on problem sites such as eroding calcareous soils and mine spoil areas and utility rights-of-way. This last plant must be unacceptable to grazing animals.
2. Waterfowl Food. New plants are needed to fit the wide variety of conditions on sites frequented by waterfowl. Plants are needed that are easy to maintain and manage and which will produce large amounts of seed or green plant food.
3. Deer Browse. Perennial Plants are needed to improve the winter deer browse.
4. Wild Turkey Food. There is a need for a perennial plant that will produce seed and fruit to improve wild turkey ranges.
5. Dove Food. Perennial seed producing plants would be desirable to replace annual crops which now leave the soil open to erosion for a short time each year.
6. Trees or shrubs to provide food for squirrels.
7. Treens or shrubs to provide seeds or fruit for songbirds.

D. Problems Related to Soils or Site Conditions:

1. Wave action erosion control in water impoundment structures with vegetation.
2. Ground cover plants for mine spoil areas.

- D. 3. Controlling wind erosion on croplands with vegetation.
4. Salt tolerant plants to control shoreline erosion along the Gulf Coast.
5. Salt and/or alkaline tolerant plants to control erosion on either calcareous soils or soils contaminated with salt.
6. Ground cover plants for eroding soils that are very acid.

E. Problems Related to Grassland Conservation:

1. Improving soil protection and forage production with a cool season pasture plant.
2. Improving soil cover and forage production on low fertility soils or sites.
3. Improving soil cover and forage production on wet soils or sites.
4. Improving soil cover and forage production on range sites in poor condition by reseeding.
5. Improving range management practices by assembling information on the growth of range plants.
6. Improving soil cover and forage production with adapted legumes.
7. Improving soil cover and warm season forage production on droughty soils.
8. A warm season forage plant that can withstand flooding.
9. A perennial grass to prevent soil erosion and provide high quality frosted forage for winter grazing.
10. A leguminous plant for early fall grazing.
11. A high yielding hay plant that can be established from seed.

COMBINE SETTINGS FOR SEED HARVEST:

Echinochloa frumentacea

Chiwapa japanese millet

Cylinder speed	-	1200 -- 1400 RPM
Cylinder to concave spacing	-	1/4" - 1/2"
Fan valves	-	1/3 open
Adj. chaffer	-	1/2 open
Finishing sieve	-	9/64"

Glycine ussuriensis

Wild reseeding soybean

Cylinder speed	-	960 RPM
Cylinder to concave spacing	-	5/8" - 1/2"
Fan Valves	-	Open
Adj. chaffer	-	1/2 open

Lespedeza virgata

Spreading lespedeza

Cylinder speed	-	1000 - 1200 RPM
Cylinder to concave spacing	-	1/4" - 1/2"
Fan valves	-	1/4 open
Adj. chaffer	-	1/2 open
Finishing sieve	-	9/64"

Panicum texanum

Texas millet

Cylinder speed	-	1200 -- 1400 RPM
Cylinder to concave spacing	-	1/4" - 1/2"
Fan valves	-	1/3 open
Adj. chaffer	-	1/2 open
Finishing sieve	-	5/32"

Panicum virgatum

Switchgrass

Cylinder speed	-	1200 -- 1400 RPM
Cylinder to concave spacing	-	3/8" -- 1/2"
Fan valves	-	1/4 open
Adj. chaffer	-	1/4 to 3/8 open
Finishing sieve	-	9/64"

COMBINE SETTINGS FOR SEED HARVEST - Continued

Paspalum notatum

Wilmington bahiagrass

Cylinder speed	-	1200 -- 1600 RPM
Cylinder to concave spacing-		3/16" - 1/4"
Fan Valves	-	1/4 open
Adj. Chaffer	-	1/2 open
Finishing sieve	-	9/64"

Trifolium vesiculosum

Meechee arrowleaf clover

Cylinder speed	-	1200 -- 1600 RPM
Cylinder to concave spacing-		1/4" - 1/2"
Fan Valves	-	1/3 open
Adj. Chaffer	-	1/2 open
Finishing sieve	-	7/64"

NOTES AND SPECIAL PROBLEMS

Seeds of numerous shrubs and woody plants germinated very poorly in the spring of 1971. Several plants in this group had consistently high germination percentages for several years in succession. The cause for these germination failures is unknown.

PURE SEED AND GERMINATION PERCENTAGES OF SEED LOTS TESTED:

Species	% :Germination:	% Hard Seed:	% Firm Seed:	% Pure Seed:
<u>Echinochloa frumentacea</u> Chiwapa millet	81.0	0.0	0.0	95.40
<u>Eragrostis curvula</u> Lovegrass	72.0	0.0	0.0	98.73
<u>Festuca arundinacea</u> Fescue	95.0	0.0	0.0	99.29
<u>Festuca elat. v. arund.</u> KY 31 fescue	92.0	0.0	0.0	97.30
<u>Glycine ussuriensis</u> , Lot 1 Wild reseeding soybean	69.5	17.5	0.0	97.95
Lot 2	62.0	27.5	0.0	96.31
<u>Lespedeza cuneata</u> Sericea lespedeza	78.5	1.0	0.0	98.15
<u>Lespedeza virgata</u> Spreading lespedeza	41.5	26.0	0.0	94.15
<u>Paspalum notatum</u> - Lot # 1 Wilmington bahiagrass	80.0	0.0	0.0	81.60
Lot # 2	88.0	0.0	0.0	78.45
<u>Trifolium nigrescens</u> Ball clover	12.0	81.5	0.0	95.00
<u>Trifolium vesiculosum</u> Lot # 1 Meechee arrowleaf clover	25.5	68.0	0.0	98.15
Lot # 2	18.5	76.0	0.00	98.70

INFORMATION

A. Publications

1. Numerous articles concerning Coffeeville Plant Materials Center were written in 1971. A few were written in newspapers of wider distribution.
2. The following named article concerning a plant developed by the Center was written in 1971:

Wilborn, Ed, 1971. Meechee - Two Month's Extra Grazing. The Progressive Farmer 86(10):36

3. A publication entitled "Better Plants to Help Improve Our Environment" was published by the Soil Conservation Service in 1971. This brochure tells the story of the Plant Materials Center work in picture and story.

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

Codes:	GL - Germinated and Lived															3 - Good			9 - Very Weak					
	NG - No Germination															5 - Fair			10 - Winter Kill			S - Sod		
	1 - Excellent															7 - Poor			B - Bunch			V - Vine		
Species	PI or	MS	Date	Growth			Seed.	Leaf	Prod.	Injury	Maturity	Plant												
				Other No.	No.	:Planted:							Type	Vigor	Prod.	:Injury	:rity	:Height						
Aeschynomene americana			3254	7/1/70	-								10											
Agropyron caninum L. Beauv.	297868		3375	11-5-71	GL	5	7						-											
Agropyron caninum L. Beauv.	314612		3376	11-5-71	GL	3	7						-											
Agropyron caninum L. Beauv.	314615		3377	11-5-71	GL	3	7						-											
Agropyron caninum L. Beauv.	314616		3378	11-5-71	GL	3	7						-											
Agropyron caninum L. Beauv.	314628		3379	11-5-71	GL	3	7						-											
Agropyron caninum L. Beauv.	314629		3380	11-5-71	GL	3	7						-											
Agropyron caninum L. Beauv.	315492		3381	11-5-71	NG	-	-						-											
Agropyron caninum L. Beauv.	172364		3452	11-5-71	GL	5	7						-											
Agropyron caninum L. Beauv.	235086		3453	11-5-72	GL	5	7						-											
Agropyron caninum L. Beauv.	235438		3454	11-5-71	NG	-	-						-											
Agropyron caninum L. Beauv.	251417		3455	11-5-71	NG	-	-						-											
Agropyron caninum L. Beauv.	252044		3456	11-5-71	NG	-	-						-											
Agropyron caninum L. Beauv.	253290		3457	11-5-71	GL	5	7						-											
Agropyron ciliare	276395		3458	11-5-71	GL	5	7						-											
Agropyron ciliatiflorum	229426		3459	11-5-71	GL	5	9						-											
Agropyron elongatum (Host) Beauv.	142012		3011	10-30-69	PS	-	5						1	July				12"						
Agropyron elongatum (Host) Beauv.	98526		3012	10-30-69	PS	-	9						1	"				6"						
Agropyron elongatum (Host) Beauv.	150123		3013	10-30-69	PS	-	5						1	"				10"						
Agropyron elongatum (Host) Beauv.	283164		3019	10-30-69	PS	-	7						1	"				10"						
Agropyron elongatum (Host) Beauv.	P 2326		3016	10-30-69	PS	-	5						1	"				10"						
Agropyron elongatum (Host) Beauv.	297871		3020	10-30-69	PS	-	5						1	"				12"						
Agropyron elongatum (Host) Beauv.	315352		3021	10-30-69	PS	-	7						1	"				10"						
Agropyron elongatum (Host) Beauv.			3023	10-30-69	PS	-	3						1	"				14"						
Agropyron elongatum (Host) Beauv.	98526		3028	10-30-69	PS	-	7						1	"				6"						
Agropyron elongatum (Host) Beauv.	179169		3029	10-30-69	PS	-	7						1	"				4"						
Agropyron elongatum (Host) Beauv.	204383		3030	10-30-69	PS	-	5						7	"				8"						
Agropyron elongatum (Host) Beauv.	205279		3031	10-30-69	PS	-	7						1	"				6"						
Agropyron elongatum (Host) Beauv.	206622		3032	10-30-69	PS	-	7						1	"				8"						

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

Codes:

A - Annual

P - Perennial

GL - Germinated and Lived

NG - No Germination

1 - Excellent

3 - Good

5 - Fair

7 - Poor

9 - Very Weak

10 - Winter Kill

B - Bunch

S - Sod

V - Vine

Species	PI or Other No.	MS No.	Date Planted:	Growth Type	Seed. Vigor:Prod.:	Leaf Prod.:	Seed Injury:	Plant Maturity:	Height
Agropyron elongatum	206623	3033	10-30-69	PS	-	3	3	1	July 14"
Agropyron elongatum	206624	3034	10-30-69	PS	-	7	7	1	" 6"
Agropyron elongatum	222958	3035	10-30-69	PS	-	3	5	1	" 8"
Agropyron elongatum	249144	3038	10-30-69	PS	-	3	5	1	" 10"
Agropyron elongatum	251143	3039	10-30-69	PS	-	5	3	1	" 6"
Agropyron elongatum	255146	3040	10-30-69	PS	-	5	3	1	" 8"
Agropyron elongatum	255148	3041	10-30-69	PS	-	7-	7	1	" 6"
Agropyron elongatum	255149	3042	10-30-69	PS	-	7	5	1	" 6"
Agropyron junceum	297873	2695	10-30-69	DIED '71					
Agropyron pectiniforme Roehm	297874	2696	11-5-71	GD					
Agropyron pectiniforme & Schutt	312438	3382	11-5-71	GL	5	9	-	-	-
Agropyron pectiniforme	315357	3383	11-5-71	GL	5	9	-	-	-
Agropyron pectiniforme	315358	3384	11-5-71	GL	5	9	-	July	-
Agropyron pectiniforme	315359	3385	11-5-71	NG				"	
Agropyron pectiniforme	273734	3460	11-5-71	NG					
Agropyron pectiniforme	273735	3461	11-5-71	GL	5	9	-	-	-
Agropyron pectiniforme	310369	3462	11-5-71	GL	5	9	-	-	-
Agropyron pectiniforme	315360	3463	11-5-71	GL	5	9	-	-	-
Agropyron pectiniforme	BN 18616	3597	3-26-71	GL	5	9	-	-	-
Agropyron pectiniforme	BN 18617	3598	3-21-71	GL	5	7	-	-	6"
Agropyron pectiniforme	PI 325212	3599	3-26-71	GL	7	9	-	-	6"
Agropyron smithi	BN 8473-69	3014	10-30-69	PS		5	5	1	July 10"
Agropyron smithi	BN 12002-60	3015	10-30-69	PS	-	5	7	1	" 6"
Agropyron smithi	BN 16229-64	3018	10-30-69	PS	-	7	7	1	" 12"
Agropyron smithi	BN 6105-64	3022	10-30-69	PS	-	7	7	1	" 10"
Agropyron smithi	A-13081	3024	10-30-69	PS	-	5	5	1	" 12"
Agropyron smithi	C-27	3025	10-30-69	PS	-	5	5	1	" 10"

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

Codes:

A - Annual
P - Perennial
NG - No Germination
GL - Germinated and Lived
1 - Excellent
3 - Good
5 - Fair
7 - Poor
9 - Very Weak
10 - Winter Kill
B - Bunch
S - Sod
V - Vine

Species	PI or MS	Date	Growth	Seed.	Leaf	Seed	Winter	Matu-	Plant
Other No. : No. : Planted: Type : Vigor: Prod.: Prod.: Injury: rity : Height									
Agropyron smithii	P 15614	3026	10-30-69	PS	-	5	5	1	July
Agropyron striatum	PI 269891	3386	11-5-71	GL	5	7	-	-	-
Agropyron striatum	PI 207452	3464	11-5-71	GL	5	7	-	-	-
Agropyron striatum	PI 207453	3465	11-5-71	GL	5	9	-	-	-
Agropyron striatum	PI 223235	3466	11-5-71	GL	5	7	-	-	-
Agropyron striatum	PI 269895	3467	11-5-71	NG	-	-	-	-	-
Agrostis palustris	3157	5-20-70	PS	-	5	5	1	July	8"
Ajuga sp.	3681	9-16-71	P	-	5	3	1	-	6"
Ammophila breviligulata	BN 9026	2181	10-22-65	Disc.71	-	-	-	-	-
Andropogon annularis	PMT 586	2114	5-28-65	PB	-	5	3	1	July
Andropogon caucasicus	PMT 588	2913	5-15-69	PB	-	5	5	1	"
Andropogon annularis	PMT 587	2157	5-11-66	PB	-	3	5	1	"
Andropogon gerardi	BN 9982	139	5-19-61	PB	-	3	5	1	"
Andropogon gerardi	BN 9703	253	5-10-62	PB	-	3	3	1	Sept.
Andropogon gerardi	NY 1145-1	942	3-22-65	PB	-	3	5	1	"
Andropogon gerardi	NY 1145-2	943	5-31-63	PB	-	5	5	1	Oct.
Andropogon gerardi	AM 59	2244	5-11-66	PB	-	5	3	1	"
Andropogon ischaemum	419	5-10-62	PB	-	5	5	3	Aug.	30"
Andropogon maritimus	F 3813	2363	4-27-66	PB Discarded	3	7	1	Oct.	24"
Andropogon rhizomatus	F 1378	1719	5-19-64	PS	-	7	7	3	Nov.
Andropogon scoparius	332	10-12-61	PB	-	1	3	1	Oct.	28"
Andropogon scoparius	333	10-13-61	PB	-	1	1	1	"	24"
Andropogon scoparius	BN 4496-60	447	4-27-62	PB	-	3	3	1	Aug.
Andropogon scoparius	NC 62-15	748	4-11-63	PB	-	3	3	1	Oct.
Andropogon scoparius	1772	5-27-64	PB	-	3	3	5	1	Oct.
Andropogon stolonifer	F 836	223	4-22-63	PS	-	5	7	1	Nov.
Andropogon stolonifer	F 2857	2356	4-18-66	PB	-	9	9	1	"

Codes: GRASSES, LEGUMES, AND HERBACEOUS PLANTS

Species	A - Annual P - Perennial GD - Germinated & Died	GL - Germinated & Lived VL - Vegetated & Lived NG - No Germination	PI or Other No.	MS : No.	Date : Planted	Growth : Type	Seed. : Vigor	Leaf : Prod.	Matu- : Injury	Plant : Height	7 - Poor 9 - Very Weak 10 - Winter Kill	B - Bunch S - Sod V - Vine
Arachis glabrata v. hagenbeckii		AM 1532	3075	4-25-69	AB	Disc.						
Arachis glabrata v. "		AM 1533	3076	"	AB	"						
Arachis monticola		263393	528	5-2-65	AB	Disc.						
Arachis sp.		AM 1292	3078	4-25-69	AB	Disc.						
Argyrolobium linneeanum Walp		302847	3533	5-20-71	GL	5						
Arundinaria Michx sp		S 2410	3526	3-15-71	VL	-						
Arundinaria tecta (Walt) Muhl		TN 71-2	3525	3-9-71	VL	-						
Arundinella anomala Steud.		BN 11260	3534	5-20-71	NG	-						
" hirta (Thunb.) Koidz		BN 18267	3535	5-20-71	NG	-						
" nepalensis Trin.		257670	3541	5-20-71	NG	-						
Arundo donax Linn		2881	3606	4-5-71	VL	-						
Asclepias tuberosa			2881	4-23-68	PB	-						
Belamcanda chinensis		AM 2356	2237	1-12-66	PB	-						
Bothriochloa glabra (Roxb) A. Camus		364394	3812	5-25-72	GL	Disc.						
Bothriochloa intermedia v. indica PI 6580			2910	5-15-69	PB	Disc.						
Bothriochloa "		PMT 1062	2912	"	PB	-						
" "		"	2915	"	PB	-						
Bouteloua curtipendula		PMT 1065	2183	5-11-66	PB	-						
" "		"	2189	5-11-66	PB	-						
Brachypodium pinnatum (L) Beauv.		206682	262	5-19-71	GL	5						
" "		185135	640	5-19-71	GL	5						
" "		206545	641	5-19-71	GL	5						
" "		268325	2249	5-19-71	GL	5						
" "		206547	3323	5-19-71	GL	5						
" "		206548	3324	"	GL	5						
" "		BN 9156	3325	"	GL	7						
" "		230112	3326	"	GL	5						
" "		253298	3328	"	GL	5						
" "		172692	3329	"	GL	5						

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

Codes:		NG - No Germination		5 - Fair		10 - Winter Kill		Species
A - Annual	P - Perennial	1 - Excellent	3 - Good	7 - Poor	9 - Very Weak	B - Bunch	S - Sod	
GL - Germinated & Lived						V - Vine		
		PI or MS	Date	Growth	Seed.: Leaf :Seed :Winter:Matu-: Plant			
		Other No. No.	Planted: Type	: Vigor: Prod.:Prod.:Injury:rity	: Height			
Brachypodium pinnatum(L.)Beauv.	230113	3330	5-19-71	GL	5	5	7"	
"	" " 206441	3331	5-19-71	GL	5	7	6"	
"	" " 240151	3332	5-19-71	GL	5	7	6"	
"	" " 268219	3333	"	GL	5	5	8"	
"	" " BN 15859-64	3335	"	GL	5	5	8"	
"	" " PI 316169	3336	"	GL	5	5	7"	
"	" " PI 325213	3337	"	GL	5	7	6"	
"	" " PI 325216	3338	"	GL	5	5	6"	
"	" " PI 206620	3339	"	GL	5	5	8"	
"	" " PI 206650	3340	"	GL	5	7	6"	
"	" " PI 206677	3341	"	GL	5	5	6"	
"	" " PI 229676	3342	"	GL	7	7	5"	
"	" " PI 230241	3343	"	GL	5	5	8"	
"	" " PI 249722	3344	"	GL	5	5	7"	
sylvaticum(Huds)	PI 206546	642	"	GL	5	5	8"	
"	Beauv. 171650	3345	"	GL	5	5	7"	
"	" " 173700	3346	"	GL	5	5	8"	
"	" " 237792	3347	"	GL	9	9	6"	
"	" " 251102	3348	"	GL	7	7	6"	
"	" " 268222	3349	"	GL	5	5	7"	
"	" " 287787	3350	"	GL	5	5	8"	
"	" " 223669	3351	"	GL	5	7	7"	
"	" " 204863	3352	"	GL	5	7	6"	
"	" " 204865	3353	"	GL	5	7	6"	
"	" " 172383	3354	"	GL	5	7	6"	
"	" " 206619	3355	"	GL	5	5	8"	
"	" " 269842	3356	"	GL	5	7	6"	

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

Codes: A - Annual P - Perennial	GL - Germinated and Lived NG - No Germination 1 - Excellent	PI or Other No.: MS No. ; Planted:	Date	Growth	Seed.:Leaf :Prod	7 - Poor 9 - Very Weak	3- Good 5 - Fair	10-Winter Kill B-Bunch S - Sod
Species								
Bromus inermis		2956	10-30-69	PB		7	5	1 June 12"
"	314071	2957	"	PB		3	5	1 July 12"
"	AM 1360	3181	12-4-69	PB		3	3	1 " 12"
" riparius	251693	3542	11-5-71	GL		9	-	- 3"
"	297889	3544	"	GL		9	-	- 3"
"	314072	3545	"	NG		9	-	- 3"
"	314513	3546	"	GL	7	9	-	- 2"
"	314514	3547	"	GL	5	9	-	- 3"
"	314515	3548	"	GL	5	9	-	- 4"
"	314516	3549	"	GL	7	9	-	- 3"
"	315372	3550	"	GL	5	9	-	- 4"
"	315380	3551	"	GL	5	9	-	- 3"
"	315386	3552	"	GL	5	9	-	- 4"
"	315387	3553	"	GL	7	9	-	- 3"
"	315388	3554	"	GL	5	9	-	- 4"
"	315389	3555	"	GL	5	9	-	- 3"
"	315390	3556	"	GL	7	9	-	- 4"
"	315391	3557	"	GL	5	9	-	- 4"
"	315392	3558	"	GL	7	9	-	- 4"
"	315393	3559	"	GL	7	9	-	- 3"
"	315394	3560	"	GL	5	9	-	- 4"
"	315397	3561	"	GL	5	9	-	- 4"
"	315676	3562	"	GL	7	9	-	- 3"
" cf. "	283197	3563	"	GL	5	9	-	- 4"
Bromus unioloides HBK	316176	2697	10-30-69	PB		7	3	1 June 10"
"	316177	2698	"	PB		5	3	1 " 10"
" willdenowii		2699	"	PB		5	5	1 " 12"

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

Codes:	GL - Germinated & Lived	NG - No Germination	1 - Excellent	PI or Other No. : MS No.	Date Planted	Type	Growth Seed. : Leaf : Seed : Winter : Matu- : Plant	3 - Good	5 - Fair	7 - Poor	9 - Very Weak	S - Sod	B - Bunch	10 - Winter Kill	V - Vine
Species															
Dactylis glomerata	BN 19167-67	3027			10-69-69	P									
Dactyloctenium australe	2702	2702			5-19-71	GL									
Eragrostis ariantha	522	522			7-17-65	PB									
Echinochloa frumentacea	BN 8963	181			5-15-71	AB									
" holubii	PI 207924	924			5-2-68	PS									
Eleusine coracana	217608	178			5-19-71	AB									
" "	271564	1891			"	AB									
" "	202662	3390			"	AB									
" "	248881	3391			"	AB									
" "	318897	3392			"	AB									
" "	318898	3393			"	AB									
" "	321083	3394			"	AB									
" "	321084	3395			"	AB									
" "	321085	3396			"	AB									
" "	321086	3397			"	AB									
" "	321125	3398			"	AB									
" "	321126	3399			"	AB									
" "	321127	3400			"	AB									
" "	321128	3401			"	AB									
" "	321129	3402			"	AB									
" "	321130	3403			"	AB									
" "	349652	3404			"	AB									
Elyonurus hirsutus	271565	3564			5-20-71	NG									
" "	271566	3565			"	NG									
" "	290761	3566			"	NG									
Eragrostis curvula	PMT 603	3437			5-19-71	GL									
" "	PMT 604	3389			"	GL									
" "	PMT 718	3446			"	GL									
" "	PMT 729	3447			"	GL									
" "		3448			"	GL									
" "		3484			"	GL									

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

Codes:

GL - Germinated and Lived

A - Annual

1 - Excellent

7 - Poor

B - Bunch

P - Perennial

3 - Good

9 - Very Weak

S - Sod

NG - No Germination

5 - Fair

10 - Winter Kill

V - Vine

Species	PI or Other No.	MS No.	Date	Growth:Seed.	Leaf:Seed	Winter:Plant	Vigor:Prod.	Injury:rity	Height
Eragrostis ferruginea (Thunb)	BN 18263-68	3568	5-20-71	GD					
"	FI 283273	3569	"	GD					
" robusta	234218	443	5-19-71	PB	5	5		July	2'
"		3485	"	GL	3	3		"	2½'
Eremochloa ophiuroides	BN 15989	2575	3-17-67	PS	-	5	7	Aug.	4"
Eremopoa persica (Trin)Roshev.	220080	3487	5-20-71	GD					
"	22521	3488	"	GD					
Erianthus ravennae	BN 8009	2576	3-14-67	PB	-	1	9	Sept.	8'
Festuca arundinacea Schreb		2656	10-27-67	PB	-	3	3	June	18"
"		2657	"	PB	-	5	5	"	16"
"		2658	"	PB	-	5	5	"	16"
"		2659	"	PB	-	5	5	"	16"
Festuca elatior	F 1079	539	"	PB	-	3	3	"	18"
"	F 1103	1601	"	PB	-	3	3	"	18"
Festuca gigantea	255362	3405	11-5-71	NG					
"	286206	3406	"	GL	5	9	-	-	4"
"	206646	3468	"	GL	5	9	-	-	4"
"	210552	3469	"	NG					
" pallescens(St. Yves)	283318	3407	"	NG					
"	343071	3408	"	NG					
"	269647	3470	"	GL	7	9	-	-	3"
" pratensis	BN 15609-68	3634	"	GL	5	9	-	-	3"
"	BN 19516-69	3635	"	GL	5	9	-	-	4"
"	BN 19517-69	3636	"	GL	5	9	-	-	4"
"	BN 19518-69	3637	"	GL	5	9	-	-	4"
"	BN 19519-69	3638	"	GL	7	9	-	-	3"
"	BN 19520-69	3639	"	NG	7	9	-	-	3"
"	BN 19521-69	3640	"	NG					
"	BN 19522-69	3641	"	GL	5	9	-	-	4"

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

Codes: A - Annual P - Perennial NG - No Germination
 GL - Germinated & Lived VL - Veg. & Lived; VD - Veg. & Died
 1 - Excellent 7 - Poor B - Bunch
 3 - Good 9 - Very Weak S - Sod
 5 - Fair 10 - Winter Kill V - Vine

Species	PI or Other No.:	MS No.:	Date Planted	Growth:Seed.:	Leaf:Seed	Winter:Plant	Injury:Prod.:	Height
<i>Festuca</i> Linn. sp.		3150	10-30-69	PB	5	5	1	June 16"
<i>Fingerhuthia africana</i>	299967	3471	5-11-71	GL	7	5	-	Aug. 12"
<i>Fingerhuthia sesleriaeformis</i> Nees	196359	3409	5-19-71	GL	7	5	-	" 12"
"	"	203354	5-19-71	GL	3	3	-	" 16"
<i>Fingerhuthia sesleriaeformis</i> Nees	299968	3411	5-19-71	GL	3	5	-	" 16"
"	"	299970	5-11-71	GL	5	5	-	" 16"
"	"	299969	5-11-71	GL	5	5	-	" 16"
<i>Glycine ussuriensis</i>	163453	3412	5-11-71	AB	3	3	-	Oct. 16"
<i>Helianthus maximiliani</i>	PMT 852	128	5-11-66	PB	3	3	-	Nov. 8"
"	PMT 853	2211	5-11-66	PB	3	3	-	" 8"
"	PMT 1564	3514	5-19-71	GL	3	3	-	" 5"
"	PM-K 1410	3373	5-19-71	GL	3	3	-	Sept. 4½"
<i>Helianthus</i> sp.,	299933	3374	5-19-71	GL	3	5	-	Oct. 6"
<i>Hemarthria altissima</i> (Poir) Stapf & Hubb	299933	2916	5-13-68	PS	1	None	3	7"
"	299039	2917	"	Disc.				
"	299094	2918	"	Disc.				
"	299995	2919	"	PS	5	None	5	2"
"	364344	3647	9-16-71	VL	7	-	-	1"
"	364862	3648	"	VL	7	-	-	1"
"	364864	3649	"	VL	7	-	-	1"
"	364865	3650	"	VD	7	-	-	1"
"	364866	3651	"	VL	7	-	-	1"
"	364867	3652	"	VL	7	-	-	1"
"	364868	3653	"	VL	7	-	-	1"
"	364869	3654	"	VL	7	-	-	1"
"	364870	3655	"	VL	7	-	-	1"
"	364872	3656	"	VD	7	-	-	1"
"	364873	3657	"	VL	7	-	-	1"
"	364875	3658	"	VL	7	-	-	1"
"	364876	3659	"	VL	7	-	-	1"

GRASSES, LEGUMES AND HERBACEOUS PLANTS

Codes:

Species	PI or Other No.	MS : No.	Date : Planted	Growth Seed, Leaf			Seed Winter			Matu- Plant	
				Type	Vigor	Prod.	Prod.	Injury	Prod.	Prod.	Prod.
Lathyrus latifolia		3261	5-19-71	GL	5	5	-	-	-	-	-
Leersia hexandra	364346	3670	9-16-71	VL	-	-	-	-	-	-	-
Leersia aquatica	BN 10506	3176	5-20-70	Died	-	-	-	-	-	-	-
Lespedeza cuneata	PI 246769	119	5-11-67	PB	-	-	3	1	Oct.	Pros.	8"
"	BN 4666	279	4-12-65	PB	-	-	5	1	Nov.	8"	8"
"	PI 310409	2534	5-18-67	PB	-	-	5	1	Oct.	30"	30"
"	NC Syn.# 2	2535	5-18-67	PB	-	-	3	1	"	24"	24"
"	AM 2054	2584	5-18-67	PB	-	-	5	1	"	"	24"
Lespedeza inshanica (Maxim)	318640	2585	5-18-67	PB	-	-	3	1	"	"	24"
"	Schindl. 349421	3571	5-20-71	GD	-	-	7	-	-	-	-
"	intermixta	3572	5-20-71	GL	-	-	7	1	Oct.	Pros.	12"
"	japonica	280	5-11-67	PB	-	-	7	1	Sept.	4"	4"
"	90664	1643	3-17-64	PB	-	-	5	1	"	"	4"
"	90664	1850	2-2-65	PB	-	-	1	1	"	"	4"
"	AM 816	2503	2-1-67	PB	-	-	5	1	"	"	3"
"	variant Ex BN 2279	2536	5-18-67	PB	-	-	7	1	"	"	5"
"	maximowiczii Schneid	2537	"	PB	-	-	5	1	Oct.	12"	12"
"	pilosa	282	5-13-63	PB	-	-	5	1	"	"	8"
"	procumbens	230	5-13-63	PB	-	-	7	1	"	"	8"
"	NC 63-8	1609	4-17-64	PB	-	-	7	1	"	"	8"
"	NC 64-3	1646	4-17-64	PB	-	-	7	1	"	"	3"
"	cuneata	2146	5-11-67	PB	-	-	3	1	"	"	12"
"	serpens	2352	5-28-68	PB	-	-	3	1	"	"	15"
"	tomentosa	3529	5-20-71	GL	-	-	5	-	-	-	-
"	ex Maxim	3573	5-20-71	GD	-	-	5	-	-	-	-
"	"	3574	5-20-71	GL	-	-	5	9	Oct.	18"	18"
"	"	3575	"	GL	-	-	5	0	"	"	12"
"	virgata	126	4-12-65	PB	-	-	3	1	"	"	18"
"	virginicus	3166	5-20-70	VD	-	-	5	-	-	-	-
"	x divaricate	3528	5-20-71	GL	-	-	5	9	Oct.	12"	12"
"	"	3570	5-20-71	GD	-	-	5	-	-	-	-

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

GRASSES, LEGUMES, AND HERBACEOUS PLANTS												
Codes:		GL - Germ. & Lived		1 - Excellent 3 - Good 5 - Fair		7 - Poor 9 - Very Weak 10 - Winter Kill		B - Bunch S - Sod V - Vine				
PI or		Date		Growth :Seed.:Leaf :Seed :Winter: Plant		Injury: rity : Hgt.						
Species		Other No.		:MS No :Planted: Type		:Vigor:Prod.:Prod.:Injury: rity : Hgt.						
Liriope	graminifolia	82105		2577	3-14-67	PS	-	1	3	1	Oct.	18"
Liriope	muscari var variegata			2588	5- 67	PS	-	5	9	1	Aug.	12"
Liriope	sp.	BN 11069		2578	3-14-67	PS	-	3	5	1	Oct.	12"
Lotus	chihuahuensis	262405		3222	5-19-71	GD						
Lotus	corniculatus L.	316271		3233	5-19-71	GD						
"	edulis	283627		3238	5-19-71	GD						
"	corniculatus L.	G 18984		3223	"	GL	5	3	3	-	July	10"
"	"	G 18986		3224	"	GL	5	3	3	-	"	10"
"	"	G 18987		3225	"	GL	5	3	5	-	"	10"
"	"	G 18989		3226	"	GL	5	5	5	-	"	8"
"	"	273937		3227	"	GL	5	5	5	-	"	8"
"	"	296318		3228	"	GL	5	5	5	-	"	10"
"	"	316266		3229	"	GL	5	5	5	-	"	10"
"	"	316267		3230	"	GL	5	3	5	-	"	10"
"	"	316268		3231	"	GL	5	5	5	-	"	10"
"	"	316269		3232	"	GL	5	3	5	-	"	10"
"	"	322555		3234	"	GL	5	5	5	-	"	8"
"	"	322556		3235	"	GL	5	3	5	-	"	10"
"	"	329242		3236	"	GL	5	3	5	-	"	8"
"	"	331177		3237	"	GL	5	5	5	-	"	8"
"	"			3610	"	GL	5	7	5	-	Aug.	6"
"	edulis	304068		3239	"	GD						
"	pedunculatus Cav.	300015		3240	"	GL	5	5	5	-		
Lupinus	sp.			3645	11-5-71	NG						

GL - Germ. & Lived

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

CODES:

A - Annual

P - Perennial

NG - No Germination

1 - Excellent

3 - Good

5 - Fair

- 7 - Poor

9 - Very Weak

10 - Winter Kill

B - Bunch

S - Sod

V - Vine

Species	PI or MS	Date	Growth	Seed	Leaf	Seed	Winter:Matu-Plant
Other No. : No. :	Planted:	Type	Vigor:	Prod.:	Prod.:	Injury	Height

Medicago arborea L.	366041	3722	11-24-71	NG			
" tribuloides	LOT TTT	3177	11-5-71	NG			
Miscanthus sinensis		2158	7-1-65	PB			
" "		2159	7-1-65	PB			
Panicum amarulum		2191	5-11-66	PS			
" clandestinum		1737	4-19-66	PB			
" "		2201	5-11-66	PB			
Panicum coloratum	300039	2543	5-20-71	PB			
" "	300041	2544	5-20-71	GL			
" "	315721	3414	5-20-71	GL			
" "	BN 2731-63	3415	5-20-71	GL			
" "	166400	3416	5-20-71	GL			
" "	185546	3417	5-20-71	GL			
" "	185548	3418	5-20-71	GL			
" "	185550	3419	"	GL			
" "	188932	3420	"	GL			
" "	196360	3422	"	GL			
" "	196361	3423	"	GL			
" "	196362	3424	"	GL			
" "	196363	3425	"	GL			
" "	196364	3426	"	GL			
" "	298987	3427	"	GL			
" "	253241	3428	"	GL			
" "	253243	3429	"	GL			
" "	253247	3430	"	GL			
" "	253256	3431	"	GL			
" "	207990	3432	"	GL			
" "	BN 12322-59	3433	"	GL			
" "	190328	3421	"	NG			

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

CODES:

A - Annual
P - Perennial
NG - No Germination

GL - Germ. & Lived

1 - Excellent
3 - Good
5 - Fair

VL - Veg. & Lived

7 - Poor
9 - Very Weak
10 - Winter Kill

B - Bunch
S - Sod
V - Vine

Species	PI or Other No.	MS No.:	Date Planted:	Type	Prod.:	Seed Prod.:	Leaf Kill	Winter Injury:	Plant Height
Panicum coloratum	298989	3435	5-20-71	NG		3	3	-	Oct. 42"
Panicum coloratum	284152	3434	5-20-71	GL		3	3	-	Sept. 36"
Panicum coloratum	319485	3436	"	GL		3	5	3	Aug. 36"
" v.makarikariense	BN 8289	3180	5-15-70	PS		3	3	1	- 36"
Panicum hemitomom		525	5-14-62	PS		-	3	9	- 36"
"	NC 64-4	2138	3-28-68	PS		-	1	9	- 36"
"		2139	3-28-68	PS		-	3	9	- 32"
"		2390	3-28-68	PS		-	5	9	- 26"
"		2449	3-28-68	PS		-	5	9	- 12"
"		2589	4-19-67	PS		-	1	9	- 36"
"		2642	7-10-67	PS		-	5	9	- 20"
"		2908	5-10-68	PS		-	3	9	- 30"
"		3285	9-23-70	PS		-	5	9	- 12"
"		3631	6-23-71	VL		-	5	9	- 24"
Panicum hians	AM 1684	2909	5-13-68	PB		-	7	5	June 12"
" maximum Jacq.	364963	3671	9-16-71	VL		-	7	-	12"
" rhizomatium		3167	5-20-70	PB WK		-	10	-	12"
" stapifium	300058	2727	5-20-71	GL		5	5	3	Sept. 16"
"	145794	2874	5-20-71	GL		5	7	-	" 16"
"	185547	3439	5-20-71	GL		5	7	-	" 14"
"	190327	3440	5-20-71	GL		5	7	-	" 14"
"	198589	3442	5-20-71	GL		5	5	-	" 18"
"	206371	3443	5-20-71	GL		5	5	-	" 16"
"	300059	3444	5-20-71	GL		5	5	-	" 16"
" virgatum (Wabasso)	F-686	17	4-15-65	PB		-	3	3	" 60"
"	F 687	18	4-15-65	PB		-	3	3	" 60"
"		155	5-11-67	PB		-	3	3	" 60"
"	PM-K-160	445	4-15-65	PB		-	3	3	" 68"
Pappaphorum sp.	331155	2998	5-15-69	PB		-	3	5	July 30"

CODES:

A - Annual GL - Germ.
P - Perennial & Lived
NG - No Germination

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

1 - Excellent VL - Veg. & Lived
3 - Good 9 - Very Weak
5 - Fair 10 - Winter Kill

B - Bunch
S - Sod
V - Vine

Species	PI or Other No.	MS No.	Date Planted	Growth Type	Seed Vigor	Leaf Prod.	Winter Prod.	Matu- rity	Plant Height
<i>Paspalum commersonii</i>	364977	3673	9-16-71	VL	-	7	-	-	6"
"	364979	3674	9-16-71	VL	-	7	-	-	6"
"	364980	3675	9-16-71	VL	-	7	-	-	4"
"	365511	3680	9-16-71	VL	-	9	-	-	4"
"	364978	3712	11- 71	VL	-	9	-	-	5"
"	276242	1985	5-5-65	PS	-	5	-	July	18"
"	310059	3213	6-18-70	PS	-	5	-	"	16"
"	310070	3214	4-17-70	PS	DIED	5	-	-	-
"	310061	3251	4-17-70	PS	-	3	-	July	18"
"	BN 16632-65	3252	4-17-70	PS	-	3	-	"	18"
"	BN 16638-69	3253	4-17-70	PS	-	5	-	"	18"
"	NC 69-15	3123	6-23-69	PS	-	5	-	"	12"
"	"	3149	8-29-69	PS	-	3	-	Aug.	12"
"	PMT 2215	3152	5-20-70	PS	-	3	-	"	18"
"	PMT 2216	3153	5-20-70	PS	-	3	-	"	18"
"	PMT 2227	3154	5-20-70	PS	-	3	-	"	18"
"	PMT 2228	3155	5-20-70	PS	-	3	-	"	18"
"	"	3175	5-22-70	PS	-	3	-	"	16"
"	"	3178	5-20-70	PS	-	3	-	"	18"
"	"	3182	5-20-70	PS	-	1	-	"	18"
"	364981	3676	9-16-71	VL	-	7	-	-	6"
"	364982	3677	9-16-71	VL	-	7	-	-	6"
"	364983	3678	9-16-71	VL	-	7	-	-	6"
"	276248	3263	8-27-70	GL	-	5	-	Sept.	8"
"	"	904	5-15-69	PS	-	3	-	Aug.	14"
"	"	131	5-2-68	PS	-	1	-	Aug.	18"
"	"	510	5-5-65	PS	-	3	-	July	20"
"	"	902	5-5-65	PS	-	3	-	Aug.	18"
"	"	903	5-5-65	PS	-	3	-	Aug.	18"
"	BN 11573	1880	5-5-65	PS	-	3	-	Aug.	18"

GRASSES, LEGUMES, AND HERRACEOUS PLANTS

Code:		GL - Germ. & Lived	VL - Veg. & Lived	9 - Very Weak		B - Bunch	10 - Winter Kill		S - Sod	V-Vine
A - Annual		NG - No Germination	5 - Fair	7 - Poor		10 - Winter Kill		10 - Winter Kill		V-Vine
P - Perennial		1 - Excellent	Date		Growth: Seedling	Seed	Winter Kill	Injury: rity: Height		
Species	PI or	Other No.	MS No.	:Planted: Type	: Vigor: Prod.:Prod.	:Prod.	:Prod.	:Prod.	:Prod.	:Prod.
Paspalum plicatulum	339896	3140	5-15-70	AB						10
"	339897	3141	5-20-70	AB						10
"	161886	3286	5-19-71	GL	3	3	3	3	Aug.	10"
"	283022	2033	5-5-65	PB	-	3	3	3	July	48"
"		2034	"	PB	-	3	3	3	"	48"
"		3247	5-22-70	PS	-	3	3	3	Aug.	18"
"		3248	"	PS	-	3	3	3	"	18"
"		3249	"	PS	-	3	3	3	"	18"
"	364368	3672	9-16-71	VL	-	7	7	7	-	6"
"	364985	3679	"	VL	-	7	7	7	-	6"
Pennisetum alopecuroides	BN 339-59	352	5-1-64	PB	-	3	3	3	Aug.	24"
"	271603	484	4-11-68	PS	-	3	3	3	July	28"
"	315868	2728	5-24-68	PS	-	3	3	3	"	30"
"	304751	3122	5-15-69	PS	-	3	3	3	-	10
"		3193	"	PS	-				-	10
"		3194	"	AS	-				-	10
"		3195	"	AS	-				-	10
"		3196	"	AS	-				-	10
"		3197	"	AS	-				-	10
"		3198	"	AS	-				-	10
"		3199	"	AS	-				-	10
"		3200	"	AS	-				-	10
"		3201	"	AS	-				-	10
"		3202	"	AS	-				-	10
"		3203	"	AS	-				-	10
"		3204	"	AS	-				-	10
"		3205	"	AS	-				-	10
"		3206	"	AS	-				-	10

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

CODE:

A - Annual GL - Germ.
P - Perennial & Lived
NG - No Germination

VL - Veg. & Lived

1 - Excellent
3 - Good
5 - Fair

7 - Poor
9 - Very Weak
10 - Winter Kill

B - Bunch
S - Sod
V - Vine

Species	PI or Other No.	MS No.	Date Planted; Type	Growth Seed.:Leaf :Seed : Winter : Plant	Injury: rity: Height
Pennisetum spicatum	337999	2978	5-15-69 PS		10
" unisetum	304750	3450	5-19-71 NG		
Phalaris aquatica	302473	2729	" GL	5 7 9	July 12"
" "	316320	2730	" GL	5 7 9	" 8"
" "	PMT 939	3160	" GL	5 7 9	" 12"
" " x arund.	BN 12103-63	1897	11-9-65 PS	3 7	June 18"
" "	BN 12104-63	1898	" Disc.		
" arundinacea	316330	2731	5-19-71 GL	5 9	Oct. 16"
" "	297362	2840	4-16-68 PS Disc.	5 9	June 12"
" "	236525	2931	5-19-71 GL	5 7 9	Oct. 18"
Phalaris tuberosa v. hirtiglumis		2641	5-24-68 PS	3 3	June 24"
Phlox adsurgens		2373	5-26-66 PB	3 3	" 24"
Phlox drummondii, Hook		3626	5-21-71 NG		
Phragmites communis	PMK 1271	3109	4-30-69 PS	5 9	4"
" "	T 2380	3642	6-25-71 VL	5 9	3"
" "	T 2376	2376	" VL	5 9	3"
Poa pilcomayensis	337592	3245	5-19-70 P	0 1	1"
Polygonum cuspidatum	TN 71-3	3524	4-21-71 VL	5 0	3"
" compactum	NY 1119	3246	5-21-70 PB	0 0	12"
Polypogon fugax	211074	3489	5-19-71 GL	5 5	July 8"
" "	219939	3490	5-19-71 GL	5 5	" 8"
" "	220617	3491	" GL	5 5	" 8"
" "	220619	3492	" GL	5 5	" 6"
" monspeliensis	202514	3493	" GL	5 5	June 6"
" "	219940	3494	" GL	5 5	June 6"
" "	204728	3495	" GL	5 5	" 6"
" "	204729	3496	" GL	5 5	July 6"
" "	287919	3497	" GL	5 7	July 6"
" "	317466	3498	" GL	5 7	July 6"
" "	317467	3499	" GL	5 7	July 6"

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

Code:

A - Annual

P - Perennial

NG - No Germination

GL - Germinated & Lived

1 - Excellent

3 - Good

5 - Fair

PI or

Other No.

MS

No.

7 - Poor

9 - Very Weak

10 - Winter Kill

Date

Planted:

Type :

Growth Seed.:

Leaf :

Seed :

Prod.:

Winter:Matu-:

Plant

Injury:rity :

Height

B - Bunch

S - Sod

V - Vine

Aug.

Psoralea bituminosa

Rudbeckia sp.

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2'

2'

2'

CODE:

GL - Germinated & Lived

A - Annual
1 - Excellent

1 - Excellent	7 - Poor	B - Bunch
---------------	----------	-----------

P - Perennial
3 - Good

3 - Good 9 - Very Weak

NG - No Germination

10 - Winter Kill

Species	PI or Other No. :	MS No. :	Date Planted :	Growth:Seed.: Vigor:Prod.:	Leaf : Prod.:	Seed : Prod.:	Winter:Matu-: Injury: rity:	Plant Height
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Rudbeckia sp.,

3309 5-19-71 NG

"	"	3310	"	GL	3	5	3	July	18"
"	"	3311	"	GL	3	5	3	"	21

"	"	3312	"	NG
"	"	3312	"	NG

"	"	3373	"	NG
"	"	3373	"	NG

[illegible]

July 20 1944

	10	STC	=
	7	STC	=
	6	STC	=
	5	STC	=
	4	STC	=
	3	STC	=
	2	STC	=
	1	STC	=
	0	STC	=

[illegible][illegible][illegible][illegible]

"	"	3320	"	GL	3	5	-	July	24 1/2
"	"		"	GL	3	5	-	July	24 1/2

"	"	3322	"	GL	5	3	-	Aug.	21
"	"	3322	"	GL	5	3	-	Aug.	21

"	"	3451	NG
"	"	"	"
"	"	"	"

[illegible][illegible]

Year	Number of cases	Percentage of total cases
1990	10	0.1%
1991	15	0.2%
1992	20	0.3%
1993	25	0.4%
1994	30	0.5%
1995	35	0.6%
1996	40	0.7%
1997	45	0.8%
1998	50	0.9%
1999	55	1.0%
2000	60	1.1%
2001	65	1.2%
2002	70	1.3%
2003	75	1.4%
2004	80	1.5%
2005	85	1.6%
2006	90	1.7%
2007	95	1.8%
2008	100	1.9%
2009	105	2.0%
2010	110	2.1%
2011	115	2.2%
2012	120	2.3%
2013	125	2.4%
2014	130	2.5%
2015	135	2.6%
2016	140	2.7%
2017	145	2.8%
2018	150	2.9%
2019	155	3.0%
2020	160	3.1%
2021	165	3.2%
2022	170	3.3%
2023	175	3.4%
2024	180	3.5%
2025	185	3.6%
2026	190	3.7%
2027	195	3.8%
2028	200	3.9%
2029	205	4.0%
2030	210	4.1%
2031	215	4.2%
2032	220	4.3%
2033	225	4.4%
2034	230	4.5%
2035	235	4.6%
2036	240	4.7%
2037	245	4.8%
2038	250	4.9%
2039	255	5.0%
2040	260	5.1%
2041	265	5.2%
2042	270	5.3%
2043	275	5.4%
2044	280	5.5%
2045	285	5.6%
2046	290	5.7%
2047	295	5.8%
2048	300	5.9%
2049	305	6.0%
2050	310	6.1%
2051	315	6.2%
2052	320	6.3%
2053	325	6.4%
2054	330	6.5%
2055	335	6.6%
2056	340	6.7%
2057	345	6.8%
2058	350	6.9%
2059	355	7.0%
2060	360	7.1%
2061	365	7.2%
2062	370	7.3%
2063	375	7.4%
2064	380	7.5%
2065	385	7.6%
2066	390	7.7%
2067	395	7.8%
2068	400	7.9%
2069	405	8.0%
2070	410	8.1%
2071	415	8.2%
2072	420	8.3%
2073	425	8.4%
2074	430	8.5%
2075	435	8.6%
2076	440	8.7%
2077	445	8.8%
2078	450	8.9%
2079	455	9.0%
2080	460	9.1%
2081	465	9.2%
2082	470	9.3%
2083	475	9.4%
2084	480	9.5%
2085	485	9.6%
2086	490	9.7%
2087	495	9.8%
2088	500	9.9%
2089	505	10.0%
2090	510	10.1%
2091	515	10.2%
2092	520	10.3%
2093	525	10.4%
2094	530	10.5%
2095	535	10.6%
2096	540	10.7%
2097	545	10.8%
2098	550	10.9%
2099	555	11.0%
2100	560	11.1%

[illegible][illegible]

Number	GL	5	3	-	July	21
"	"	5	3	-	July	21
3483	GL	5	3	-	July	21

Year	Number of cases	Percentage of total cases
1950	3	1
1951	3	1
1952	3	1
1953	3	1
1954	3	1
1955	3	1
1956	3	1
1957	3	1
1958	3	1
1959	3	1
1960	3	1
1961	3	1
1962	3	1
1963	3	1
1964	3	1
1965	3	1
1966	3	1
1967	3	1
1968	3	1
1969	3	1
1970	3	1
1971	3	1
1972	3	1
1973	3	1
1974	3	1
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1982	3	1
1983	3	1
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1987	3	1
1988	3	1
1989	3	1
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2006	3	1
2007	3	1
2008	3	1
2009	3	1
2010	3	1
2011	3	1
2012	3	1
2013	3	1
2014	3	1
2015	3	1
2016	3	1
2017	3	1
2018	3	1
2019	3	1
2020	3	1
2021	3	1
2022	3	1
2023	3	1
2024	3	1
2025	3	1
2026	3	1
2027	3	1
2028	3	1
2029	3	1
2030	3	1
2031	3	1
2032	3	1
2033	3	1
2034	3	1
2035	3	1
2036	3	1
2037	3	1
2038	3	1
2039	3	1
2040	3	1
2041	3	1
2042	3	1
2043	3	1
2044	3	1
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2046	3	1
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2063	3	1
2064	3	1
2065	3	1
2066	3	1
2067	3	1
2068	3	1
2069	3	1
2070	3	1
2071	3	1
2072	3	1
2073	3	1
2074	3	1
2075	3	1
2076	3	1
2077	3	1
2078	3	1
2079	3	1
2080	3</	

"	"	3502	"	NG
"	"			

Sorghastrum nutans (L.) Nash

45 5-19-61

"	"	228	"	PB	5	7	"	31
"	"	227	"	PB	5	7	"	31

"		1746	5-27-68	PB	
"					
"					
"					

1777 " -64 PB

[illegible]

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

Code:											
A - Annual		GL - Germ. & Lived		1 - Excellent		7 - Poor		B - Bunch			
P - Perennial				3 - Good		9 - Very Weak		S - Sod			
MG - No Germination				5 - Fair		10 - Winter Kill		V - Vine			
Species		PI or		: MS		: Date		: Growth:Seed :Leaf :Seed :Winter: Matu-:Plant			
		Other No. :		: No.		: Planted :		: Type :		: Vigor:Prod.:Prod.:Injury: rity :Height	
Sorghastrum nutans (L.) Nash		1748	4-16-68	PB	-	5	5	5	1	Oct.	4'
"		2227	5-11-66	PB	-	3	3	3	1	"	3 1/2'
"		2462	5-18-67	PB	-	3	3	3	1	"	4'
"		2463	5-18-67	PB	-	5	5	5	1	Aug.	18"
"		2464	5-18-67	PB	-	3	3	3	1	Sept.	2 1/2'
"		2465	5-18-67	PB	-	3	3	3	1	"	3'
"		2466	5-18-67	PB	-	3	3	3	1	"	3 1/2'
"		2467	5-18-67	PB	-	3	3	3	1	"	3 1/2'
"		2468	"	PB	-	3	3	3	1	Oct.	4 1/2'
"		2469	"	PB	-	5	5	5	1	"	4 1/2'
"		2471	"	PB	-	3	3	3	1	Sept.	3'
"		2472	"	PB	-	3	3	3	1	Oct.	3 1/2'
"		2473	"	PB	-	3	3	3	1	Oct.	3 1/2'
"		2477	"	PB	-	5	5	5	1	Oct.	2 1/2'
"		2478	"	PB	-	3	3	3	1	"	3 1/2'
"		2479	"	PB	-	5	5	5	1	Oct.	3'
"		2482	"	PB	-	3	3	3	1	Oct.	4'
"		2558	"	PB	-	3	3	3	1	Oct.	3 1/2'
Spartina pectinata		2174	11-10-65	PS	-	3	3	3	1	Sept.	5'
"		2203	"	PS	-	3	3	3	1	Sept.	4'
Sporobolus airoides		2218	5-11-66	PB	-	3	3	3	1	July	2'
"	PMT 155	2219	"	PB	-	5	5	5	1	"	30"
"	PMT 207	2220	"	PB	-	5	5	5	1	July	2'
"	PMT 228	2221	"	PB	-	5	5	5	1	July	30"
"	PMT 270	2222	"	PB	-	5	5	5	1	July	2'
"	PMT 326	2223	"	PB	-	5	5	5	1	"	30"
"	PMT 382	2225	"	PB	-	5	5	5	1	July	30"
"	PMT 624	2226	"	PB	-	3	3	3	1	"	36"
"	PMT 812			PB	-						

GRASSES, LEGUMES, AND HERBACEOUS PLANTS

Code:	GL - Germ. & Lived	7 - Poor	B - Bunch
A - Annual	1 - Excellent	9 - Very Weak	S - Sod
P - Perennial	3 - Good	10 - Winter Kill	V - Vine
NG - No Germination	5 - Fair		VL - Veg. Lived
Species	PI or Other No. : No. :	MS Date Planted :	Growth Seed. Leaf Seed: Winter Matu-:Plant
		Type	Vigor:Prod.:Prod.:Injury: rity :Height
Sporobolus indicus	310427	3578 5-20-71	NG
" ioclados v.usitatus	300124	3579 5-20-71	NG
" tenacissimus	310428	" "	NG
" usitatus	198598	" "	NG
" virginicus	287252	3296 10-26-70	PB
" "	300126	3297 "	PB
Stipa barbata	330722	3006 10-30-69	PB - Died
" cernus		3371 11-5-71	NG
" pulchra	PL 105-71	3632 "	GL
" "	PL 104-71	3633 "	GL
" splendens	147820	728 11-5-71	NG
" "	275368	3366 "	NG
" "	275369	3367 "	NG
" "	314114	3582 "	GL
" ucrainica	322646	3445 5-20-71	NG
Stylosanthes montevidensis			
Tetrachne dregei	300136	2926 5-23-68	PB
Themeda anthera	218114	478 5-11-67	PB
" triandra	206349	1860 5-4-65	PB
Tridens brasiliensis	310319	2901 5-24-68	PB
Trifolium vesiculosum	233782	329 10 - 70	AB
Tripsacum dactyloides	BN 144-61	347 5-11-62	PB
" "	F 134	420 3-12-62	PB
" "	F 727	421 "	PB
" "	F 134	423 "	PB
" "		746 "	PB

GRASSES, LEGUMES AND HERBACEOUS PLANTS

Code:

A - Annual

P-Perennial

GL - Germinated & Lived

NG - No Germination

VL - Vegetative & Lived

1 - Excellent

3 - Good

5 - Fair

7 - Poor

9 - Very Weak

10 - Winter Kill

B - Bunch

B - Bunch

S - Sod

V - Vine

Species PI or Date Growth Seed. Leaf Seed Winter Matu :Plnt.
Other No. : MS No.:Planted :Type :Vigor:Prod.:Prod.:Injury: rity :Hgt.

Verbena sp.
Vicia pisiformis L.

"

"

"

"

"

Vicia sp.

Vicia tenuifolia

Vicia tenuifolia

Vicia tenuifolia

"

Vinca minor

" major

Zizaniopsis miliacea

"

"

"

"

"

"

"

Zoysia emerald

" japonica

3250 314124 PB 6-10-70 7 7 1 June 1'

3530 BN 18719-673583 NG 11-5-71 7 7 1 June 1'

BN 18720-67 3584 NG 11-5-71 7 7 1 June 1'

286214 3585 NG 11-5-71 7 7 1 June 1'

308117 3586 NG " 7 7 1 June 1'

325517 3587 NG " 7 7 1 June 1'

AM 2530 3156 P 11-10-69 5 7 1 June 18"

BN 4598 3588 NG 11-5-71 5 7 1 June 18"

BN 15481 3589 NG " 5 7 1 June 18"

314125 3590 NG " 5 7 1 June 18"

314349 3591 NG " 5 7 1 June 18"

2361 5-26-66 PV 7 9 1 June Pros.

2362 " PV 5 9 1 " "

3125 7-28-70 PB 5 9 1 Sept-Oct. 3'

3126 5-20-70 PB 5 9 1 3'

3127 " PB 7 9 1 2 1/2'

3128 " PB 5 9 1 3'

3183 " PB 5 9 1 18"

3190 3-6-70 PB 5 9 1 Oct. 3'

3191 3-13-70 PB 3 9 1 " 3'

346 6-1-62 PS 3 9 1 " 2 1/2'

340 5-16-62 PS 3 9 1 " 2 1/2'

HOLDING BLOCK

GRASSES, LEGUMES AND HERBACEOUS PLANTS

Code:		GL - Germinated and Lived		5 - Fair	B - Bunch
A - Annual		VL - Vegetated and Lived		7 - Poor	S - Sod
P - Perennial		1 - Excellent		9 - Very Weak	
NG - No Germination		3 - Good		10 - Winter Kill	
Species	PI or	Date		Growth Seed. Leaf Seed Winter	
		Planted		Type : Vigor: Prod.: Injury: rity: Height	
Zoyzia japonica		235334	341	5-16-62	PS)
"	Z-52	BN 5995	342	5-16-62	PS)
"	Z-53	BN 8120	526	5-15-62	PS)
"		324184	3241	4-15-68	PS)
" matrella		264343	343	5-16-62	PS)
"		BN 8550	344	5-16-62	PS)
"		BN 4127	345	"	PS)
" sp. (Ark.)		M-1	2620	4-20-67	PS)

HOLDING BLOCK

SHRUBS AND TREES

Code:

Winter and Insect Injury

1: - ... 20%

3: 21 ... 40%

5: 41 ... 60%

7: 61 ... 80%

9: 81 ... 100%

Species	PI or Other No.	MS No.	Date Planted	Deci- dious	Ever- green	Insect: Injury	Winter: Injury	Matu- rity	Plant: Height	Plant: Width
<i>Abies kawakamii</i> (Hayota) Ito	324940	3592	3-23-71		x	1	-	-	6"	
<i>Abies koreana</i> Wils	317188	3593	3-23-71		x	1	-	-	6"	
<i>Akebia quinata</i> (Houtt) Decne.	M1 1100	3211	4-2070	x		1	1		Vine	
<i>Alnus glutinosa</i>	Mich 823	2583	3-17-67	x		3	1	Oct	12'	7'
<i>Alnus mayerii</i>	317356	2902	4-29-68	x						
<i>Alnus rubra</i> Bong		3207	3-18-70	DIED						
<i>Alnus rubra</i> "	Cor. 4-71	3604	4-1-71	VD						
<i>Alnus rugosa</i> Spreng		2936B	1-15-69	X		1	1		3'	2'
<i>Alnus rugosa</i>		3449	11-5-70	NG						
<i>Amorpha fruticosa</i> Linn	PMT 2298	3189	5-19-70	x		1	1	-	3'	-
"	PMK 1411	3334	5-19-71	x		1	-	-	18"	-
"	BN 18268-67	3531	5-20-71	NG						
"	344562	3532	"	NG						
"	PMT 2297	3600	4-16-71	x		1	-	-	12"	6"
"	PMT 2298	3601	"	x		1	-	-	12"	6"
"	PMT 2299	3602	"	x		1	-	-	12"	6"
"	NC 67-14	2665	3-18-68	x		1	1	Oct.	16'	8" (Vine)
<i>Ampelopsis brevipedunculata</i>		2587	5-10-67	Disc.						
<i>Apios americana</i>		3507	2-2-71	DIED						
<i>Araucaria</i> Juss. sp.	BN 8967	3682	9-22-71		x	1	-	-	6"	
<i>Arctostaphylos uva-ursi</i>		2450	11-18-66	x		1	1	Nov.	5'	2'
<i>Aronia arbutifolia</i>	BN 15905	2117	3-8-65		x	1	1	"	3'	3'
<i>Berberis julianae</i>		2687	3-29-67		x	1	1	"	3½'	3½'
" <i>mentoriensis</i>		3627			x	1	-	-	6"	4"
<i>Buxus harlandii</i>	66282					1	1	Oct.	2½'	2½'
<i>CalliCARPA americana</i>		2933	1 69	x						
"		3298	2 70	NG						
<i>Caragana microphylla</i>		3696	10-26-71	x		1	-	-	1'	6"
<i>Castanea alnifolia</i>	F 4549	4	11-29-60	x		1	1	Sept.	12'	12'

SHRUBS AND TREES

Code:

Winter and Insect Injury

1: 0 --- 20%

3: 21 --- 40%

5: 41 ... 60%

7: 61.... 80%

9: 81 ... 100%

Species	PI or Other No.	MS No.:	Date Planted:	Deci- dious:	Ever- green:	Insect Injury:	Plant Hgt.	Plant Wdth.
<i>Castanea dentata</i>		2167	9-28-65	x		1	3'	2'
"		3306	12-11-70	NG				
"		3321	12-11-70	NG				
"	BN 8299	19	1 -- 61	X		1	Sept. 24'	15'
"	R8-T15	20	"	x		1	"	15'
"	R6-T16	21	"	x		1	"	15'
"	R5-T9	22	"	x		1	"	15'
"	R8-T16	23	"	x		1	"	15'
"	R3-T21	24	"	x		1	"	15'
"	S-876	25	"	x		1	"	15'
"	AM 3506	3506	4- 71	x		1	"	15'
"		3161	12-4-69	NG		1	1 1/2'	1'
"		3370	12 - 71	NG				
"	AM 120	2681	1-10-68	x		1	Sept, 4'	3'
<i>Castanea sp.</i>		1	10-28-60			1	" 20'	12'
"	58602	157	3-29-61	x		1	"	16'
"	AM 1756	2428	10-5-66	x		1	2 1/2'	2 1/2'
"	M1 5604	2429	"	x		1	4'	3'
"	M1 5603	2430	"	x		1	3 1/2'	3 1/2'
<i>Castanopsis sclerophylla</i>	PI 58394	3171	12-69		x	1	6"	6"
<i>Chamaecyparis pisifera plumosa</i>	235130	3628	6-27-71	DIED				
<i>Chamaerops maria</i>		3614	5-6-71		x	1	12"	8"
<i>Citrus nigricans</i>		3697	10-26-71	DIED				

SHRUBS AND TREES

CODE: Winter and Insect Injury:
1: 0 --- 20%

3: 21 --- 40%
5: 41 --- 60%

7: 61 ... 80%
9: 81 ... 100%

Species	PI or Other No.	MS No:	Date Planted:	Deci- dious:	Ever- green:	Insect Injury:	Winter Injury:	Plant Maturity:	Hgt. :Wath.
Citrangequat	PI CVB 480100	3644	7-20-71		x	1	-	3'	18"
Cornus florida		2572	3-13-67	x		1	1	6'	3'
"		3476	-71	x		1	-	18"	12"
" mas	BN 14626	2573	3-18-67	x		1	1	3'	2'
" officinalis	BN 14627	2574	3-13-67	x		1	1	4'	2'
Corylus, Americana		138	2-13-67	x		1	1	6'	6'
"		337	10-19-61	x		1	1	5½'	4'
Cotoneaster obscura		3698	10 71	x		1	1	1'	6"
" racemiflora	BN 15101-68	2936A	1 -- 69	x		1	1	18"	18"
Crataegus sanguinea		3372	12-11-70	NG		1	1	2½'	1½'
" sp.		2202	11-24-65	x		1	1	3'	2½'
" sp.	AM 2302	2460	12-1-66	x		1	1	1'	6"
" sp.		2671	1-15-69	x		1	1	4'	2'
Cunninghamia lanceolata		1848	11-25-64		x	1	1		
Cytisus mollis (Cav.) Pau	338638	3131	10-30-69	DIED		1	1	8'	6'
Elaeagnus multiflora		2231	1-11-66	x		1	1		
" umbellata		368	2-2-62	x	Discarded	1	1		
"	BN 11373	427	3-19-62	x		1	1	14'	14'
"	BN 11374	428	3-19-62	x		1	1	12'	12'
"	BN 11385	429	3-19-62	x		1	1	14'	14'
"	BN 11387	430	12-17-65	x		1	1	12'	14'
"	BN 11426	431	3-19-62	x		1	1	13'	14'
"	BN 12090	432	3-19-62	x		1	1	13'	14'
"	BN 13660	1723	3-16-64	x		1	1	11'	11'
"	NY 2409	2246	2-9-66	x		1	1	10'	9'
"	BN 13459-62	1722	3-16-64	x		1	1	10'	10'
"		3515	1-20-71	x		1	1	2'	1'
Elliottia racemosa		3208	4-2-70	DIED		1	1		

SHRUBS AND TREES

CODE: Winter and Insect Injury:

1: 0 --- 20%

3: 21 -- 40%

5: 41 -- 60%

7: 61 -- 80%

9: 81 -- 100%

Species	PI or Other No.	MS No.: Planted:	Date	Deci- dious:	Ever- green:	Insect: Injury:	Winter: Injury:	Plant: Hgt.:	Plant: Wdth:
<i>Euonymus fortunei</i>	275073		2379	6-23-66		x	1	1	3'
<i>Euonymus americana</i>			3299	12-- 70	NG				
"			3368	"	NG				
" <i>bungeanus</i>			3513	2 -- 71	NG				
" <i>radicans minima</i>	AM 1880		2490	1-30-67	DIED				
<i>Eurya crenatifolia</i>	324975		3215	4-23-70	DIED				
<i>Hydrangea integrifolia</i>	PI 985		3216	4-20-70	DIED				
<i>Hypericum galioides</i>			2351	4-6-66	x		1	Sept.	2 1/2'
" <i>sp.</i>			3218	4-23-70	x		1	-	3'
<i>Ilex cassine</i>	254592		3009	3-25-69	x		1	-	2'
<i>Ilex latifolia</i>	274838		3629	7-1-71	DIED				
<i>Ilex montana var macropoda</i>	316703		3010	3-25-69	x		1	-	4'
<i>Ilex rotunda</i>	112222		3527	4-16-71	x		1	-	2'
<i>Juglans nigra</i>			2937	11--68	x		1	-	6"
"			2938	"	DIED				
<i>Juglans regia</i>	AM 2568		3511	4-- 71	x		1	-	5"
"	AM 2569		3512	"	x		1	-	6"
<i>Juniperus ashei</i>	BN 20388		3611	5-2-71		x	1	-	8"
<i>Juniperus chinensis v. sargentii</i>	317238		3594	3-23-71		x	1	-	8"
" <i>silicicola</i>	BN 20389		3612	5-2-71		x	1	-	5"
" <i>virginiana</i>			3184	5-2-71		x	1	-	5"
<i>Lithocarpus henrii</i>	120651		2486	12-22-66		x	DIED		
<i>Lonicera maackii</i>	BN 8318		2161	3-6-68	x		J		
"			2205	3-6-68	x		1		3'
"			2461	12-22-66	x		1		4'
"			3522	2- -71	DIED				
"			2166	9-23-65	x	DIED			

CODES: Winter and Insect Injury:

1: 0 -- 20%
3: 21 -- 40%

SHRUBS AND TREES

5: 40 -- 60%
7: 61 -- 80%

9: 81 -- 100%

Species	PI or Other No.	MS No.	Date Planted:	Deci- dious:	Ever- green:	Insect- Injury:	Winter: Injury:	Matu- rity:	Plnt: Width
Malus baccata	99907	151	61	x		1	1	Oct. 17'	16'
Malus hupehensis	122586	150	3-13-61	x		1	1	Nov. 20'	14'
Malus sp.		385	2-9-62	x		1	1	" 27'	15'
Malus spectabilis	AM 259	365	2-2-62	x		1	1	Varies 12'	12'
Metasequoia glyptostroboides	286608	1729	4-13-64		x	1	1	-- 5'	2'
Myrica pensylvanica	NJ 1108	3500	4-16-71	x		1	1	12"	-
Photinia villosa sinica	W1 5852	2426	11-18-66	x		1	1	Nov. 6'	4'
Phyllostachys bissetii	143540	499	4-9-62		x	1	1	-- 27'	---
Phyllostachys meyerii	116768	498	4-9-62		x	1	1	-- 27'	---
" sp.	AM 315	500	"		x	1	1	-- 30'	---
Picea koyamai	317368	3595	3-23-71		x	1	1	-- 8"	4"
Pinus koraiensis	316977	2903	4-29-68		x	1	1	-- 6"	-
" "	317255	2904	" DIED						
" "	317256	2905	" DIED						
Pinus ponderosa	Lot BJ	3169	12-3-69		x	1	1	-- 8"	4"
" "	Lot CO	3170	12-3-69		x	1	1	-- 8"	4"
" sylvestris	343946	3143	12-3-69		x	1	1	-- 8"	4"
" "	343947	3144	12-3-69 NG						
" "	343948	3145	12-2-69		x	1	1	-- 8"	4"
" "	343949	3146	12-3-71		x	1	1	-- 8"	4"
" thunbergi		1873	2-4-65		x	1	1	Nov. 6'	4'
Pittosporum tobira	NC 67-23	2678	2-20-68		x	1	5	1 1/2'	8"
Populus simoni	KY 725	3210	4- 70	x		1	1	2 1/2'	1 1/2'
Potentilla tridentata Ait	BN 11030	3683	9-22-71		x	1	1	3 1/2'	6"
Prunus caroliniana	AM 2031	2684	1-10-68		x	1	1	10"	6"
Prunus caroliniana		2947	1-15-67		x	1	1	2 1/2'	2'
" "		2693	3-5-68		x	1	1	6'	4'
" "		3186	12-11-70		x	1	1	1'	8"

SHRUBS AND TREES

CODES: Winter and Insect Injury

1: 0 --- 20% 3: 21 --- 40% 7: 61 -- 80%
 5: 41 -- 60% 9: 81 -- 100%

Species	PI or Other No.	MS No.:	Date Planted	Deci- ous:	Ever- green:	Insect Injury:	Winter Matu- rity:	Plnt :Hgt	Plnt :width
<i>Quercus pumila</i>	AM 310	2240	-7-66	x		1	1	Oct.	3'
"	AM 171	2685	3-15-68	x		1	1	"	20"
"	AM 1552	2686	"	x		1	1	"	2'
<i>Raphiolepis indica</i>	AM 2143	3509	4-16-71	DIED					2½'
<i>Robinia hispida</i>	NY 3018	2488	1-23-67	x		1	1	July	4'
<i>Robinia pseudacacia</i>	257022	2906	11-26-68	x		1	1	-	18"
<i>Rosa eglanteria</i>	AM 1553	2459	12-1-66	x		1	1	-	3'
<i>Rubus parvifolius</i>	MI 4879	3212	4-2-70	x		1	1	June	12'
<i>Salix acutifolia</i>		814	2-18-63	x		1	1	-	6'
" <i>alba</i>	BN 13692-63	852	3-27-63	x		3	1	-	3½'
" <i>americana androgyna</i>	BN 14863	1955	2-13-65	x		1	1	-	6'
" <i>bicolor</i>	BN 14864	1956	"	x		1	1	-	8'
" <i>candida</i>		816	2-18-63	x		1	1	-	3½'
" <i>cinerea</i>	BN 13688-63	860	3-27-63	x		1	1	-	10'
"	BN 12362-64	1959	2-13-65	x		1	1	-	9'
" <i>cottetii</i>		1963	"	x		3	1	-	4'
" <i>glaucoophylloides v. glaucoophylla</i>									
"	BN 13672	870	3-27-63	x		1	1	-	3½'
"	BN 13673	876	3-27-63	x		3	1	-	3½'
"	BN 13666	881	"	x		3	1	-	4'
" <i>gracilis textoris</i>	BN 13662	878	"	x		1	1	-	8'
" <i>hastata</i>	BN 13679-63	863	"	x		1	1	-	4½'
" <i>incana</i>	BN 13697	854	"	x		3	1	-	5'
" <i>interior</i>	BN 13671	880	"	x		1	1	-	4'
" <i>irrorata</i>	BN 13684	847	2-18-63	x		3	1	-	7'
" <i>luteus</i>	PMT 2391	3603	Apr. 71	x		1	1	-	5'
									2'

SHRUBS AND TREES

CODE: Winter and Insect Injury

1: 0 -- 20%

5: 41 -- 60%

9: 81 -- 100%

3: 21 -- 40%

7: 61 -- 80%

Species	PI or Other No.:	MS No.:	Date Planted	Deci- dious:	Ever- green:	Insect Injury:	Winter Maturity:	Plant Hgt.:	Plant Width
Salix medemii	BN 13663	866	3-27-63	x		3	1	7'	4'
Salix muscina	BN 14878	1969	2-13-65	x		1	1	10'	7'
Salix oxica	BN 13667	875	3-27-63	x		1	1	12'	8'
Salix purpurea	266477	1972	2-13-65	x		1	1	7'	8'
"	NY 2936	505	4-17-62	x		3	1	3 1/2'	3 1/2'
"	Mich 388	820	2-28-63	x		3	1	6'	4 1/2'
"	Mich 389	822	2-28-63	x		3	1	6'	6'
"	BN 13696	850	3-27-63	x		1	1	8'	8'
"	BN 13690	858	"	x		3	1	10'	10'
"	BN 13680	859	"	x		1	1	9'	9'
"	BN 13677	877	"	x		1	1	5'	5'
"	BN 13669	882	"	x		3	1	8'	7'
"	BN 13560	899	4-1-63	x		1	1	3'	3'
"	265667	843	3-11-63	x		1	1	5'	5'
"	BN 13686	861	3-27-63	x		1	1	10'	7'
"	BN 13693-63	849	"	x		3	1	4 1/2'	4 1/2'
"	F 5615	3616	May 71	x		1	-	16"	
"	F 5616	3617	"	DIED					
"	F 5617	3618	"	DIED					
"	F 5618	3619	"	x		1	-	1'	
"	F 5619	3620	"	DIED					
"	F 5620	3621	"	x		1	-	18"	
"	F 5621	3622	"	x		1	-	18"	
"	F 5631	3623	"	DIED					
"	F 5632	3624	"	DIED					
"	F 5633	3625	"	DIED					

SHRUBS AND TREES

Winter and Insect Injury:
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Species	PI or Other No.:	MS No.:	Date Planted:	Deci- dious:	Ever- green:	Insect Injury:	Winter Injury:	Plant Hgt.:	Width:
Salix syrticola	BN 14862	1954	2-13-65	x		3	1	6'	3'
Salix tominif	BN 13681	848	3-27-63	x		3	1	5'	2'
Salix x chrysostala	265663	842	3-11-63	x		7	1	8'	6'
" x molissima	BN 13691	886	3-27-63	x		3	1	8'	6'
" x multinervis	BN 13559	898	4-1-63	x		3	1	2'	2'
Sasa pygmaea	52674	838	3-7-63		x	1	1	2'	-
Sasa pygmaea		839	3-7-63		x	1	1	6"	-
Stewartia ovata	3478		12-14-70	NG					
Symphoricarpos sp.	2432		11-17-66	DIED					
Tamarix aphylla	3479		12-14-70	GL	x	1	-	15"	6"
Thea sinensis	2491		1-30-69		x	1	1	15"	12"
Thuja orientales	3517		2 - 71		x	1	-	12"	12"
Unidentified (Sullivan)	2935		'68	Discarded					
Viburnum japonicum	235518	3596	3-23-71	x		1	-	8"	-
Viburnum lantana	316679	3219	4-23-70	x		1	1	2 1/2'	-
Viburnum sargentii	PI 682	3220	7-28-70	x		1	1	2'	1'
"	316681	3259	7-28-70	x		1	1	2 1/2'	2 1/2'
" x rhytidophylloides	316675	3256	7-28-70	x		1	1	2 1/2'	2'
" (dilatatum x lobophyllum)	316676	3258	7-28-70	x		1	1	18"	12"

